

Subtitling for Mission Accomplishment: An Experimental Study of  
the Effect of Subtitling as a Task on Listening Comprehension  
for Learners of Military English for Specific Purposes

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## DEDICATION

To my incredible parents for their love, support, patience, and encouragement.

• • •

To the 32 Hokies whose lives were tragically taken on April 16th, 2007,  
each of whom embodied tremendous promise for our world  
with creativity, intelligence, humility, and humanity.



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## **List of Abbreviations and Acronyms**

ACTFL.....	American Council on the Teaching of Foreign Languages
ALCPT.....	American Language Course Placement Test
ANA.....	Afghan National Army
ANP.....	Afghan National police
ANSF .....	Afghan National Security Forces
AVT .....	audiovisual translation
CC .....	Closed Captioning
CEFR.....	Common European Framework of Reference for Languages
CLIL.....	Content and Language Integrated Learning
CLT .....	Communicative Language Teaching
CSTC-A .....	Combined Security Transition Command - Afghanistan
DLIEC.....	Defense Language Institute English Language Center
DVIDS .....	Defense Video and Imagery Distribution System
EAP .....	English for Academic Purposes
EOP .....	English for Occupational Purposes
ECL.....	English Comprehension Level (test)
<i>EMID</i> .....	<i>Escuela militar de idiomas</i>
ESOL.....	English for Speakers of Other Languages
ESP.....	English for specific purposes
FCC.....	(U.S.) Federal Communications Commission
GIROA.....	Government of the Islamic Republic of Afghanistan
H(#).....	Hypothesis (number)
IED .....	improvised explosive device
IELTS.....	International English Language Testing System
ISAF .....	International Security Assistance Force
ILR .....	Interagency Language Roundtable
JMRC .....	Joint Multinational Readiness Center
L1 .....	native language/first language
L2 .....	second language
LMS .....	learning management system
M/PAT .....	Military/Police Advisory Team
MOOC.....	Massive Open Online Courses

NATO .....	North Atlantic Treaty Organization
NTM-A .....	NATO Training Mission - Afghanistan
OCCAT .....	Operations Coordination Center Advisor Team
OMLT .....	Operational Mentor and Liaison Team
PfP .....	Partnership for Peace
RQ(#) .....	Research Question (number)
SFAT .....	Security Force Assistance Team
SLA .....	second language acquisition
SLS .....	same language subtitles
SLP .....	NATO Standard Language Profile
STANAG .....	NATO Standardization Agreement
TBLT .....	Task-based Language Teaching
TL .....	target language
TOEIC ® .....	Test of English for International Communication

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## I. Chapter 1: Introduction

### A. General Introduction

English is indisputably the international *lingua franca*. It is used worldwide in such domains as academics, the arts, and technology, to name just a few. Not only is English used for individual purposes, such as international travel and security, but also for collective purposes, such as humanitarian aid, peace operations, international law enforcement, and military operations. The use of English for international communication in political and diplomatic dialogue is unquestionable. Furthermore, according to the British Council's Peacekeeping English Project, English is used:

To enable multinational forces involved in NATO, EU and UN peace support operations to communicate effectively with each other; for humanitarian purposes - enabling military and other security forces to interact with non-governmental agencies in conflict and post-conflict situations; by border guards and police, to combat drug smuggling and human trafficking; [and] as a tool for promoting democratic values and respect for human rights (British Council, 2009, p. 1).

However, many of the participants in activities such as those previously mentioned are non-native English speakers, given that “the ratio of native to non-native is 1:3” (Crystal, 2003, p. 69). Thus, with an exceptionally high demand for English proficiency, there is an increased requirement for English teaching and learning in order to effectively carry out this variety of international operations. As has been the case over the course of history, English has become an international language “for one chief reason: the power of its people – especially their political and **military power**” [emphasis added] (Crystal, 2003, p. 9).

In addition to English taking on a dominant place in international communication, technological breakthroughs now allow for more advanced communication and opportunities for sharing and obtaining information - opportunities that have not existed until now - in this 21<sup>st</sup> century global community. These technological advances, paired with the importance of the English language, which in many ways have each supported the advance of the other (and continue to do so), form a unique pair that has paradigm-changing potential for language teaching and learning. With the amount of information being shared across time zones and international borders like never before, people are able to experience foreign language and culture, and are indeed able to get authentic material and experiences, thanks to advances in technology which bring that content and capability right to their computer screens and mobile devices. With the click of a mouse or tap of a finger, one can be reading a newspaper or watching a television show or film, perhaps even in real time, originally produced for a market halfway around the world.

As has happened in the past with advances in technology and the availability of information, we are again presented with an opportunity to exploit these advances in technology, communication, and information for educational purposes. Multimedia products, such as television and film, are no longer considered hard-to-get items, but rather are readily available for anyone with an Internet connection. Thus, these products, when combined with new technology and the correct methodology, may prove beneficial for language learning purposes.

## **B. Historical Background**

As previously mentioned, English has become the primary language of communication in international operations. Reference has been made to the role of the military in the spread of English, namely with respect to the effect on the local community (Crystal, 2003). Although it is not explicitly stated, this reference infers that the local

community would be exposed to English because it is the language that is being used by the armed forces operating in the area, making special mention of the “English-speaking troops on peace-keeping missions in Bosnia, the Middle East, Central Africa and elsewhere and in Afghanistan since 2001” (Crystal, 2003, p. 106). Crystal (2003) goes on to provide a real-world example of the use of English by the involved military personnel, noting how “UN officers are routinely heard on TV commentating on the way a crisis is developing, and the language used to the cameras is almost always English” (2003, p. 106). English indeed plays an important role in international military operations. One such operation at the forefront of the international stage is the multinational effort for security and reconstruction in Afghanistan.

In December of 2001 the United Nations Security Council adopted Resolution 1386 establishing a security mission in Afghanistan to be led by the North Atlantic Treaty Organization (NATO) called the International Security Assistance Force, or ISAF. The Resolution specifically “calls on Member States participating in the International Security Assistance Force to provide assistance to help the Afghan Interim Authority in the establishment and training of new Afghan security and armed forces” (NATO, 2013). Although the initial plan called for command of ISAF to rotate between different nations every 6 months, this proved difficult, and in August of 2003, NATO itself took command of ISAF. Moreover, although the original concept for ISAF was to provide assistance for security in and around Kabul, over the following 3-year period ISAF gradually expanded responsibility until October of 2006, when it became responsible for all international military forces in the country, some 32,000 troops from 37 contributing nations. This newly increased ISAF role also gave way to the implementation of a program to fulfill the training requirements for the new Afghan National Security Forces (ANSF). The answer to this need was NATO-ISAF’s advisory program, the NATO Training Mission-Afghanistan, or NTM-A,

and formerly known as Combined Security Transition Command-Afghanistan, or CSTC-A. Operational Mentor and Liaison Teams, or OMLTs, now called Military and Police Advisory Teams, MATs and PATs, respectively, are responsible for the training of the ANSF with respect to the transition to Afghan control that began in July 2011 and culminated at the end of 2014. Additionally, Operation Coordination Centers Advisory Teams, OCCATs, are in place for ANSF commanders to coordinate for ISAF support. Together, all of these training and transition teams are referred to as Security Force Assistance Teams, or SFATs.

On 31 December 2014, the official NATO-ISAF mission to Afghanistan ended, and a transition was made to the new NATO-led mission: the Resolute Support Mission. After more than 13 years of ISAF, the transition to this support mission took place on 1 January 2015 and, according to NATO, moved from “a combat role to a train, advise, and assist mission” (“Mission | Resolute Support Mission,” 2015). That is, although the purpose of the mission changed, namely as a result of what was accomplished during the original operational, combat role of NATO’s ISAF mission from December 2001 to December 2014. This new mission focuses on training and assisting the ANSF. CSTC-A remains an integral part of the new Resolute Support Mission, and is charged with the following mission:

Train, Advise, and Assist within the Afghan Security Institutions to develop Resource Management capability, IG/TAO and Rule of Law capability, and provide resources in accordance with the Afghan National Defense Security Forces (ANDSF) Plan of Record. Develop sustainable ANDSF capacity and capabilities in support of GIRoA (“CSTC-A | Resolute Support Mission,” n.d.).

Although the overall NATO mission in Afghanistan has changed significantly as a result of the culmination of the combat operations that were the focal point of the ISAF mission, the

importance of the training, advising, and assisting mission has increased and is now inherently linked to mission success metrics.

Being a NATO-led initiative, the ability to communicate in English is paramount for mission accomplishment. This is not only due to the fact that English is one of the two official languages of NATO, as agreed upon in the September 17, 1949 session of NATO's governing body, the North Atlantic Council, but also because English has become the de facto language of international military operations. Because NATO leads the current support mission in Afghanistan, and due to the fact that the SFATs are composed of multinational forces, Proficiency in English is an imperative skill for SFAT members. Within the context of the training mission, proficiency in English is needed for both communications with other multinational forces serving in advisory capacities as well as within operational contexts in order to provide the necessary NATO-ISAF support and coalition capabilities to the ANSF with whom they are embedded - living and working side by side on a daily basis throughout the duration of the mission. That is, NATO forces use English to communicate with each other, as well as with the ANSF, through local language professionals, both of which occur at tactical, operational, and strategic levels. These local-national interpreters and translators usually speak English, making the SFAT members' English language abilities absolutely critical. Unfortunately, military specific English language abilities of the SFAT are not sufficient.

Generally, SFATs are made up of 13-30 individuals, international military personnel, either from one or multiple countries, which provide training, mentoring, and support to the ANSF as well as liaise between their Afghan counterparts and ISAF. This includes coordination for operational planning and enabling support, such as intelligence, close air support, and casualty and medical evacuation in order to increase operational capabilities of the trained unit. Teams are traditionally embedded with battalions, or *kandaks*, of the Afghan

National Army (ANA) or the Afghan National Police (ANP) and usually remain deployed for a period of no shorter than 6 months. There are also teams embedded at higher than battalion levels, such as brigade and corps staff. In June 2013, there were 381 ISAF SFATs in Afghanistan, from 37 contributing nations (NATO, 2013). Despite the fact that the transition of full responsibility for security of Afghanistan began in July 2011, the NATO transition plan, which is based on a model of security force assistance, calls for advising the ANSF throughout the 4-stage process. The transition concluded in the year 2014; however, despite the end of the major NATO-ISAF mission to Afghanistan, NATO immediately began the follow-on support mission “Resolute Support” on 1 January 2015, that continues today. SFATs continue to play a critical role in developing security capabilities of the ANSF so that they will be able to take full responsibility for security in accordance with the NATO transition plan (NATO, 2009, 2010, 2012a, 2012b, 2012b, 2013).

Training for the military personnel who are preparing for a mission as members of an SFAT is conducted in three phases. Phase one, which consists of national training and pre-deployment preparation, takes place in the home country. Phase two, which is a NATO centralized training, is conducted at the Joint Multinational Readiness Center (JMRC) in Hohenfels, Germany. Lastly, training phase three takes place throughout the deployment in the theatre of operations.

Despite the success of the training mission, in 2009, a general need for team members to improve their English language skills prior to reporting to phase two of the NATO advisory team training was identified (Embree, 2009). Thus, a needs analysis was carried out, showing a shortfall in military specific terminology and usage for radio communications and unit operational planning. It was then determined that improving these specific language skills would enhance the team’s ability to mentor the ANSF and to liaise with ISAF once in-theatre (Embree, 2009). Furthermore, increased military-related English skills were deemed



necessary to enhance mission success. Thus, a project entitled “Mission Related English for Operational Mentor and Liaison Teams,” conducted by the Partner Language Training Center Europe of the George C. Marshall European Center for Security Studies, was developed:

The two-week, intensive Mission-Related English (MRE) for Operational Mentor and Liaison Teams (OMLT) workshop is designed for international military personnel preparing to embed with the Afghan National Army. Participants enhance their language skills in English for Specific Purposes through learning, reviewing and practicing time-sensitive radio call formats and reports, and battle drill terminology in context (George C. Marshall European Center for Security Studies, 2010, p. 1).

What initially began as a two-week course for select members of OMLTs became an intensive, three-week workshop, the “OMLT based Tactical Communications English” for MATs and PATs, focusing on three areas: pronunciation improvement and accent reduction, military specific terminology, and introduction to and practice of specific radio call formats. The workshop was conducted in-person at the Marshall Center in Germany and utilized both traditional classroom as well as interactive multimedia instruction (Embree, 2009). Attendance at this workshop would take place between phases one and two of the team training. Although ideally each member of a deploying team would go through the training, due to limited resources, not all members of the teams were able to attend the workshop at the Marshall Center. In most cases, teams would send one to two members of the team to the workshop and those members would then in turn train the rest of their team while concurrently conducting the phase 2 training prior to deployment, essentially functioning as a train-the-trainer scenario. Despite the importance of the content for the success of the

advisory mission, and although it would have been an ideal scenario, there were not enough resources to send all members of the team to the in-person workshop at the Marshall Center.

### **C. Problem Statement**

The former NATO-ISAF and current NATO Resolute Support Mission employing advisory teams is now more important than ever, especially with the plan to transition full responsibility of safety and security to the Afghan government, after over 10 years of international safety and security assistance from NATO and other international participants. It has been duly documented that team members, in order to effectively carry out their missions, needed to improve their knowledge of military specific English terminology and radio communication, which would lead to enhanced mission success in advising the ANSF. This, however, is not only useful for specific mission-related ends, but also for the general knowledge and professional development of members of the armed forces of NATO member countries, especially when required to fulfill combined duties, between member countries, such as NATO staff assignments or attendance at foreign professional military education, not to mention for doctrinal and research related purposes that will likely arise throughout the course of one's military career. Although the Marshall Center was able to provide excellent training via the "Tactical Communications English" workshop, specifically designed for advisory team members, not all members of the teams were able to attend this in-person training. Furthermore, not all members of NATO are assigned to these specialized teams, due to mission requirements and other restraints, and as such not all members of the NATO community would have the opportunity to attend the Tactical Communications English for MPAT training at the Marshall Center. Because of this, many professionals in arms are left at a disadvantage; all the while potentially jeopardizing the success of the advisory mission as a whole.

While the workshop did utilize traditional teaching methods in a face-to-face context, adapting the content to a different delivery method and instructional methodology may extend the reach of the course content, making it available to more individuals. This could be executed in the form of distance learning, blended learning, or in a pure self-paced online format. Recent academic research (such as that of (Lertola, 2012; Neves, 2004; Sokoli, 2006; Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011; Williams & Thorne, 2000)) shows positive results with respect to the use of subtitling, an audiovisual translation mode, as a task for non-translator, language learners to increase language acquisition, and more specifically, the skills of listening comprehension (Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011) and vocabulary acquisition (Lertola, 2012).

NATO SFAT and other staff members should increase their English listening comprehension skills, primarily over military radio, in order to successfully carry out their missions. The only available standardized NATO training for these ends was the Marshall Center's "Tactical Communications English" workshop, which was only offered in a two week, face-to-face format in Garmisch, Germany to a limited number of SFAT members, 6 times per year. If other formal training options for listening comprehension improvement are not offered, SFAT teams will continue to be at a disadvantage and mission accomplishment may not increase, potentially affecting the success of the NATO transition to Afghan authority for security within the country. Thus, the professional task of subtitling could be used as a didactic tool for language acquisition purposes to increase listening comprehension skills via military radio delivered through an online learning management system.

Although the academic research carried out thus far with respect to the use of subtitling as a learner task has showed positive results, the studies have only been conducted within the context of general language learning. There has yet to be a significant project dedicated to examining the use of subtitling as a learner task within the context of English for

Specific Purposes. Furthermore, the aforementioned studies have all been conducted in traditional classroom settings, utilizing computer labs to carry out the experiments. No significant study has been carried out using an online learning management system, as this study does.

With an increased interest in the use of subtitled audiovisual material in language learning, substantial research has been conducted and published relative to its use (Baltova, 1994; Bird & Williams, 2002; Dollerup, 1974; Garza, 1991; Markham, 1989; Neuman & Koskinen, 1990; Price, 1983; Vanderplank, 1988, 1999, 2010; Williams & Thorne, 2000; Winke, Gass, & Sydorenko, 2010). However, what remains to be explored in depth is the use of audiovisual translation, in this case subtitling as a learner task, in second language acquisition, (Vanderplank, 2010), more specifically with respect to listening comprehension, when applied to ESP.

#### **D. Purpose and Significance of the Study**

Therefore, the purpose of this study is to test the effect of subtitling as a learner task on listening comprehension by comparing subtitling as a learner task, and viewing of subtitled audiovisual material to listening comprehension via military radio for the research study participants, native Spanish-speaking English language learners from the Spanish military, in an online learning environment.

This study is both relevant, with respect to the continuing operations taking place in Afghanistan and the enduring NATO mentoring and advising support mission, as well as timely, due to the potential transition of full responsibility for security to the Government of the Islamic Republic of Afghanistan (GIROA). Apart from these facts, based on the combined nature of NATO and the multifaceted enduring operations requiring multinational participation, the content is generally relevant for members of the armed forces from any NATO member country in order to enhance their interoperability within the combined

context. According to Crossey (Crossey, 2005), while language skills are primarily the responsibility of the member country, “language training must be of concern to NATO as a whole since linguistic interoperability is as important to ensuring that countries are able to participate effectively in both NATO missions and wider Alliance activities as any other form of interoperability” (Crossey, 2005, p. 5). Thus, the present study is relevant both in an operational setting, where radio communication is essential to mission accomplishment, as well as in a non-operational NATO setting, such as a staff assignment, where communication by telephone and radio is also required.

The desired outcome of this study is to provide new insights into the use of audiovisual translation as a learner task in ESP and the effect that the task has on listening, vocabulary acquisition, and content knowledge, and to contribute to the limited information and scholarly writing available related to the use of subtitling as a language learning task for non-translators, specifically within the context of English for the military or English for security forces. Furthermore, within the area of English for Specific Purposes (ESP), and more specifically military English, it will provide a foundation for further research within that context for the use of both subtitled audiovisual material and audiovisual translation, to potentially include not only subtitling, but the variants thereof (interlingual as well as intralingual), as well as other modes of audiovisual translation, such as dubbing and audio description. It will also provide a critical review of the use of online learning and an online learning management system in the delivery of authentic audiovisual material as well as the teaching and subsequent execution of subtitling tasks, all taking place within an online environment. This will hopefully influence the teaching and learning of audiovisual translation, especially in traditional translation trainer curricula, providing an example of how this mode can be taught entirely online utilizing readily available applications, and extending the use of these applications within this area.

**E. Research Questions**

The aforementioned purpose statement thus leads to the following clearly defined Research Questions (RQ#), as displayed in Table 1.

RQ1	To what extent do scores on military radio-based listening comprehension assessments increase as a result of the subtitling task for learners of English for the military?
RQ2	To what extent do scores on military radio-based listening comprehension assessments increase as a result of viewing subtitled audiovisual material by learners of English for the military?
RQ3	To what extent does the use of an online learning management system support subtitling as a task for learners of English for the military?

*Table 1: Research Questions*

**F. Hypotheses**

The hypotheses shown in Table 2 are predictions about the expected outcomes of the experiment that the researcher has made based on an extensive review of existing studies and similar experiments from the literature, namely those conducted by (Lertola, 2012; Neves, 2004; Sokoli, 2006; Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011; Williams & Thorne, 2000).

H1	The Experimental Group's scores on military radio-based listening comprehension assessments will be higher than those of the Control Group as a result of the subtitling task.
H2	The Control Group's scores on military radio-based listening comprehension assessments may increase as a result of viewing subtitled audiovisual material.
H3	The Experimental Group will inform that the learning management system supports subtitling as a task for learners of English for the military.

*Table 2: Hypotheses*

### **G. Conceptual Framework Overview**

While the theoretical framework for this study is based on those underlying theories upon which Communicative Language Teaching (CLT) is based, this experiment's justification is solidly grounded in theory that will be further explained and detailed in Chapter 2. However, it is important to identify the prevalent concepts here in order to provide a basic understanding so that the research questions and hypotheses can be properly understood within this context. These prevalent concepts are: CLT, task-based language teaching, audiovisual translation, listening comprehension, online learning, and English for Specific Purposes (ESP). A concept map detailing the ways that each of the overarching concepts relates to the present study is shown in Figure 1. CLT and Theory of Online Learning provide an overarching framework for the study, indicated by the yellow and blue arrows that unite to form the green frame of the study's title in Figure 1. Audiovisual translation, task-based language teaching, listening comprehension strategy and assessment, and English for specific purposes contribute to the way that the study has been conceived and

carried out, indicated by the colors from the concepts and the corresponding words in the study's title.

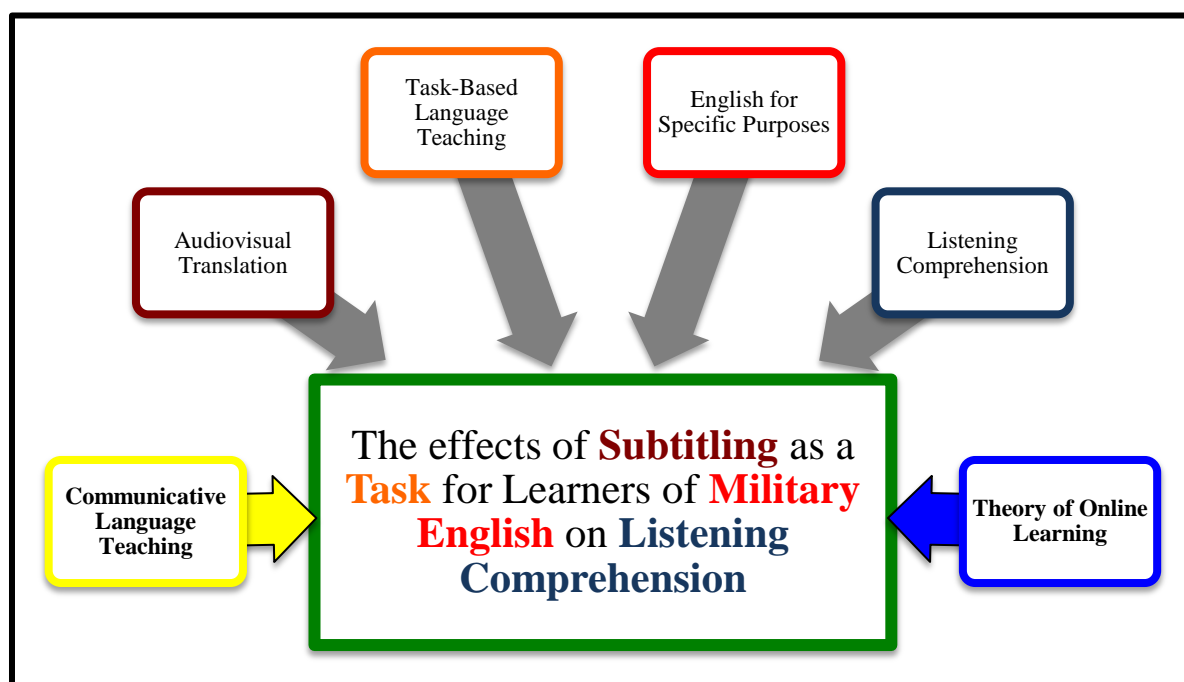


Figure 1. Conceptual Framework

#### H. Definitions of Terms

- **Listening comprehension:** “the ability to process extended samples of realistic spoken language, automatically and in real time; to understand the linguistic information that is unequivocally included in the text, and to make whatever inferences are unambiguously implicated by the content of the passage” (Buck, 2001, p. 114).
- **Audiovisual translation:** “the branch of translation studies concerned with the transfer of multimodal and multimedia texts into another language and/or culture” (Pérez-González, Luis, 2009, p. 13).



- **Subtitling:** “a translation practice that consists of presenting a written text, generally on the lower part of the screen, that endeavors to recount the original dialogue of the speakers, as well as the discursive elements that appear in the image (letters, inserts, graffiti, inscriptions, placards, and the like), and the information that is contained on the soundtrack (songs, voices off)” (Díaz Cintas & Remael, 2007, p. 8).
- **Online learning:** “the use of the Internet to access learning materials; to interact with the content, instructor, and other learners; and to obtain support during the learning process, in order to acquire knowledge, to construct personal meaning, and to grow from the learning experience” (Ally, 2004, p. 5).

## **I. Research Design Overview**

While explicit details on the methodology, analysis, and justification thereof are specified and discussed at length in Chapter 3, an overview of the research design at this point serves to relate the purpose, research questions, hypotheses, and the subsequent literature review within the overall organization of the present study.

In order to adequately determine the research approach that will be taken, Creswell identifies three aspects, knowledge claims, strategies of inquiry, and methods, that shall “inform a choice of approach” (Creswell, 2003, p. 15). The following questions are provided as “central to the design of research:

1. What knowledge claims are being made by the researcher (...)?
2. What strategies of inquiry will inform the procedures?
3. What methods of data collection and analysis will be used?”

(Creswell, 2003, p. 5)

While the author establishes these questions in a specific order, leading one to believe that they must be answered in the order presented so that the answer may subsequently inform the following question, only the first question about knowledge claims must be addressed and answered in order to determine the research approach. While the answers to these individual questions will allow for an adequate research approach to be chosen and subsequently operationalized into the detailed procedures that will be followed to execute the research study, the research approach has been identified only after establishing the researcher's knowledge claims, allowing for the following two questions to be answered.

In order to address Creswell's first question, the relationship between research and knowledge must be defined. Research, according to Shuttlesworth (Shuttlesworth, 2008, p. 1), may be defined as "any gathering of data, information and facts for the advancement of knowledge" (Shuttlesworth, 2008, p. 1). This study, however, shall be further classified as what Robson (2002) calls *real world research* and states that such research "refers to applied research projects, which are typically small in scale and modest in scope (...) [and] tend to be related to change and/or policy, often seeking to evaluate some initiative, service, or whatever" (Robson, 2002, p. 5). In the present study, it is a case of an evaluation, whereas what is being evaluated is an initiative, subtitling and the viewing of subtitles, in listening comprehension, to potentially enact change to current practices.

Thus, as "all research is concerned with *contributing to knowledge*" (Robson, 2002, p. 63), in order to understand the decisions made with respect to this study's design, one must first understand how this researcher views and understands knowledge and "the assumptions about how [they] will learn and what [they] will learn during [their] inquiry" (Creswell, 2003, p. 6) within the context of this study. At this point, it is important to note that the knowledge claims being identified herein are the foundation for the *design* choices that have been made for *this* study, in order to inform the research approach. These knowledge claims do not

necessarily represent the hard and fast fundamental epistemological views held by the researcher with respect to the world and the ways in which all that can be known is derived. There are various existing frameworks for knowledge claims. For the purposes of this study's design, as the knowledge claims are inseparably linked to the research purpose and research questions previously identified, a post positivist point of view has been chosen. That is, assuming that being absolutely positive about a claim of knowledge is impossible, post positivism focuses on cause and effect and therefore, from such a view, because the construction of knowledge is "both a rational activity based on evidence and a social activity based on power, politics, and ideology" (Robson, 2002, p. 22), "the problems studied by post positivists reflect a need to examine causes that influence outcomes, such as issues examined in experiments" (Creswell, 2003, p. 7). In other words, starting with a theory or concept on the relationship between pre-determined variables, data will be collected and analyzed in order to test the theory or concept. Instead of seeking an absolute, what is sought is an explanation, and instead of attempting to prove hypotheses, they will be evaluated, based on the analysis of the data collected, and may result in a failure to reject the hypotheses. I should like to highlight that while the traditional positivist view was that "the researcher and the researched person were independent of each other," this researcher and most post positivists now recognize that "the theories, hypotheses, background knowledge, and values of the researcher can influence what is observed" (Robson, 2002, p. 22). Thus, adequate controls have been incorporated into the design of the study to minimize bias, and increase reliability and validity.

Having established the researcher's understanding of knowledge for the purposes of this study, the second question, which deals with strategies of inquiry or "specific direction for procedures in a research design" (Creswell, 2003, p. 13), could be addressed. However, as experiments and surveys are two common strategies associated with postpositive views of

knowledge (Creswell, 2003, p. 14), at this point, the research approach is almost automatically determined to be quantitative. These strategies are further defined as what Robson (2002, pp. 74–5) calls “fixed designs [which] call for a tight pre-specification before you reach the main data collection stage” and where “two broad traditions are widely recognized: experimental and non-experimental designs”. In this case, taking into account the aforementioned problem statement, “the professional task of subtitling could be used as a didactic tool for language acquisition ends”, an experimental strategy of inquiry has been chosen. An experimental fixed design’s “central feature is that the researcher actively and deliberately introduces some form of change in the situation, circumstances or experience of participants with a view to producing a resultant change in their behaviour” (Robson, 2002, p. 78). This deliberate introduction of change in the situation shall be the subtitling condition for the Experimental Group and the viewing of subtitled audiovisual materials by the Control Group. Overall, because “the basic intent of an *experiment* is to test the impact of a treatment” (Creswell, 2003, p. 154), this strategy directly aligns with the aforementioned research purpose, making it the ideal choice for this study.

Now that the understanding of knowledge claims has been established to be postpositivist, and a research approach, informed by the experimental strategy of inquiry, has been identified as quantitative, these aspects can be combined to provide a clear understanding of the design, which will allow the third questions, related to methods of data collection and analysis, to be answered. According to Creswell (2003),

A *quantitative* approach is one in which the investigator primarily uses postpositivist claims for developing knowledge (...), employs strategies of inquiry such as experiments and surveys, and collects data on predetermined instruments that yield statistical data (Creswell, 2003, p. 18).

Thus, the research methods, or procedures for data collection and analysis, are to be “predetermined instrument based questions, performance data (...), and statistical analysis” (Creswell, 2003, p. 17) and said methods and procedures for data collection and analysis will be detailed extensively in Chapter 3.

## **J. Study Organization**

The present study is organized into five chapters, followed by appendices and a list of references and works cited. Having introduced the study in Chapter 1, Chapter 2 deals with the theoretical framework upon which the research is based and the theoretical lens through which the study has been carried out. It also includes the relevant literature review, the way in which the proposed study fits into the current state of the art, and the implications of the review as relates to the present study. Chapter 3 establishes and details all aspects of the methodology that has been undertaken to gather the data for the follow-on analysis. This includes the research design, setting, population, instrumentation, reliability and validity assurances, procedures for data collection and analysis, and limitations and delimitations. Chapter 4 contains the analysis of the data gathered and chapter 5 consists of the discussion, conclusion, and recommendations for further study.



## **II. Chapter 2: Literature Review and Conceptual Framework**

### **A. General Introduction**

In this chapter, both the literature review and the conceptual framework will be presented in detail. The literature review provides a thorough background on the existing research and scholarly writing related to the topic under investigation, and exposes the gap therein that this study will fill. As the literature review is to existing research, so is the conceptual framework to fundamental theory. The conceptual framework not only establishes the theoretical foundation upon which this study is built, but also offers a deeper look into each of the principal concepts and their interrelatedness as it applies to this research.

### **B. Literature Review**

#### **1. Introduction**

Although the relevancy and timing of the present study with respect to the NATO training mission are self-evident, it is important to note the prior research that has been conducted up to this point that has informed this study and led to the selection of the problem and context thereof. Since as early as the mid-1970s, researchers such as Dollerup (1974) have been studying the possible uses and effects of subtitled audiovisual material in language learning. Most studies, however, have focused primarily on the use of existing captioned and subtitled audiovisual material (Bird & Williams, 2002; Danan, 2004; Garza, 1991; Neuman & Koskinen, 1990; Vanderplank, 2010). Although a press release from the European Commission states that “subtitling is a spectacular tool for helping people learn languages easily and enjoyably” (EUROPA Press Releases, 2007, p. 2), it is important to mention that in 2009 it was noted that “research on subtitling as a medium for language learning is almost non-existent” (Williams & Thorne, 2000, p. 218). Furthermore, Vanderplank adds “there have been few reports of the value of captioning or subtitling of programmes [sic] as an aid to

developing language knowledge and skills” (Vanderplank, 2010, p. 17). Since that time, several significant studies (Lertola, 2012; Neves, 2004; Sokoli, 2006; Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011; Williams & Thorne, 2000) have been carried out with respect to subtitling as a learner task. These studies will be subsequently reviewed and critically analyzed.

## **2. Historical Overview of the use of Subtitled Audiovisual Materials in Language Teaching and Learning**

Technology has long had a place in the language learning process, yet as technological advances continue to be made and this world moves closer and closer each day toward becoming a true global community, educators are presented with a multitude of authentic, contextualized materials from which to choose in order to enrich their teaching and give learners more opportunities to experience and interact with the target language (TL). However, with the advent of such technology, educators have a plethora of available resources and tools, and they are often faced with the dilemma of having to choose the most efficient resources.

With these various resources, subtitled audiovisual material and audiovisual translation (AVT) allow educators to incorporate technology, relevant content, and authentic material into their language instruction practice. In 1974, Dollerup began evaluating audiovisual resources and their effects on the various aspects of language acquisition. As technology and practices (such as subtitling) continue to advance, so too does research supporting their use to increase language acquisition. For example, when captions (transcriptions of the audio portion of audiovisual material) made their way formally to language education, and more specifically to the foreign language classroom, experts believed that they would be a “way to increase learners’ attention, reduce anxiety, give students instant confirmation of their understanding of what was heard, and increase



motivation” (Winke et al., 2010, p. 65). In 2002, a study on single mode versus bimodal presentation on word learning showed that “prior bimodal presentation improved recognition memory for spoken words and non-words compared to single modality presentation” (Bird & Williams, 2002, p. 509). Based on this specific research, the conclusion was bimodal presentation of new words aids in new word learning, supporting the use of subtitled audiovisual material, to cite but one example. There has been an academic interest in the use of subtitles for quite some time, resulting in numerous contributions to the literature in the form of case studies, articles, doctoral dissertations, and conferences (Lertola, 2012; Neves, 2004; Sokoli, 2006; Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011; Williams & Thorne, 2000).

While the use of on-screen text may have been first introduced into the realm of foreign language education in the 1980s (Winke et al., 2010, p. 65), subtitles have long been used in the teaching and learning of foreign languages. In 1974, Cay Dollerup published an article regarding Danish subtitles in Denmark’s predominately foreign television programming wherein he touts their use as an educational tool:

The proportion of the population which has at some stage or other learnt one or several foreign languages is relatively high, and that many people must therefore be using foreign programmes as a means for keeping up, possibly even improving their command of foreign languages. For this reason they will, time and again, resort to the subtitles in order to increase their vocabulary or check their understanding of what is being said. And in so doing they are, inevitably, subjected to strong audiovisual teaching methods, viz., (1) the original message, (2) a translation of it, and (3) a ‘stimulus’, i.e. a picture or a sequence of pictures showing what the speech refers to (p. 197).

As the use of subtitles in language learning has continued to provide significant benefits to language learners, in May of 2010 the Directorate-General for Education and Culture of the European Commission launched “a study aimed at analyzing the potential of subtitling to encourage language learning and enhance foreign language skills” (Media Consulting Group, 2011, p. 4). This investment by the European Commission attests to the value of captions and subtitles and shows a dedication to taking full advantage of the opportunities this resource can provide. In a 2011 press release from the European Union Education Audiovisual and Culture Executive Agency referencing the results of the European Commission’s study on the use of subtitling states:

In terms of language mastery, in countries with a tradition of subtitling, knowledge of a foreign language (and of English in particular) is close to that of the mother tongue of the population surveyed, whereas countries with a tradition of dubbing the majority of respondents evaluated their skills at a level of 3 on a scale of 5 (“Subtitling to learn foreign languages,” 2011, p. 2).

This claim affirms Martine Danan’s argument that “standard subtitling can provide language learners with additional valuable assistance, as in the case of the incidental language learning occurring in Europe with spectators of American films” (Danan, 2004, p. 67).

In the past twenty years, there has been a significant amount of specific scholarly research within the study of captions and subtitles in foreign language learning. In the beginning, the main question was whether captions helped or hindered learning. Therefore, the early research focused on comparing video presented with and without captions, and variants of that basic question, such as language background of the students, for example. As Price (1983) and Markham (1989) detail in their research, the use of captions as a tool in language teaching and learning does improve comprehension. Since then, other academics

and researchers have explored more specific aspects such as verbatim recall, overall comprehension, listening comprehension, accurate reuse of vocabulary, detail comprehension, general recognition of words, and vocabulary building. Having established that the use of captions is an effective tool, the new research began to focus on “our understanding of how and when to use captions to best effect” (Vanderplank, 2010, p. 13).

As the aforementioned research shows, it is paramount that language instruction professionals know how and when to employ the pedagogic tool of captions in the process of language acquisition. As Danan reiterates, “to derive the greatest benefits of both captions and subtitles, we will finally stress the importance of teaching students how to consciously adopt effective learning strategies, which ultimately play a fundamental role in improved listening skills and successful language acquisition” (Danan, 2004, p. 67). In order for students to gain from the use of subtitles, both the learner and the instructor must be competent in their use in order for the tool to be beneficial. This means that students must be taught techniques and strategies to use when presented with three-channel input, and instructors must learn the associated strategies on the employment of this dynamic pedagogic tool.

Another interesting phenomenon with respect to the use of audiovisual materials and language learning is that of same language subtitles (SLS) being used for first-language literacy. In 1996, while watching a Spanish film with English subtitles in order to improve his Spanish, Brij Kothari remarked, somewhat jokingly, that his learning would be much faster if the subtitles were in Spanish. His aside comment regarding literacy in India turned SLS into an exceptionally effective pedagogic tool: “if they simply added Hindi subtitles to Bollywood songs, India would become literate” (Kothari, 2005, p. 1). In 2010, Shah of the *Boston Globe* reported that SLS reached over 200 million viewers per week and “in the last nine years, functional literacy in areas with SLS access has more than doubled (...) and the subtitles have

acted as a catalyst to quadruple the rate at which completely illiterate adults become proficient readers” (Shah, 2010, p. 1).

Although not the same as SLS, the use of standard, interlingual subtitles (those subtitles that have been translated from the spoken source language into the written target language) can provide assistance to viewers and may result in incidental language learning. In this case, as viewers are hearing the original spoken language of the film or program, which the EU EACEA reports as being “dominated by North American products in English” (“Subtitling to learn foreign languages,” 2011, p. 2), they are seeing their native language appear on-screen as text transcriptions, giving them the spoken L1, written L2, and visual cues from the film or program to reach full comprehension. Although Krashen (1982) traditionally uses the term “negotiation of meaning” to refer to conversation, it can be argued that the spoken L1 and written L2 paired with the visual channel provide the necessary “comprehensible input” for viewers to negotiate meaning.

Despite the fact that some current language instruction methodology discourages any use of the L1, there exists some research to show that, when used appropriately, it can support L2 acquisition: “recent research in language and memory processing shows that selective recourse to translation can also lead to cognitive benefits” (Danan, 2004, p. 67). This increased “depth of processing and interconnectedness” that Danan mentions could explain why some viewers might claim that watching video with interlingual subtitles is challenging. Because subtitled media is presented as three-channel input, a greater demand is placed on the viewer, which may in turn yield an increased ability to process and recall. To further challenge the commonly held belief that incorporation of the L1 in L2 acquisition is detrimental and should be avoided, Danan (2004) and Paivio (1990) claim that “once translation has linked the two verbal systems, viewers have established more paths for

retrieval and may benefit from visual traces as well as from two distinct sets of verbal traces” (Danan, 2004, p. 67).

The presence of reliable research notwithstanding, some may still claim that using interlingual subtitles will train language learners to simply rely on the L1 text that is presented on the screen and disregard the target language dialogue and audio. However, once again, relevant research in the form of “cognitive experiments measuring eye movement patterns” (Danan, 2004, p. 67) posits that subtitles are, in fact, consistently read, despite the presence of sound or knowledge of the language that was being spoken. Contrary to current practice, Danan’s research shows that L1 interlingual subtitles do have a place in L2 language instruction, giving instructors an additional, proven pedagogic tool.

In Europe, foreign audiovisual material is traditionally presented in either subtitled, dubbed, or voice-over format. For several reasons, among them being historical and sociological, each country has established itself as using either dubbed or subtitled versions. For example, France, Germany, Spain, and Italy are traditional dubbing countries, whereas Portugal, Greece, the United Kingdom, The Netherlands, and most Scandinavian countries are known to be subtitling countries. Based on a survey of 6,000 participants in 33 countries conducted by the European Commission, although not a majority, it is important to note, “37% of Europeans prefer to hear the original language while watching foreign films or programmes” (European Commission, 2006, p. 243). The results of the survey also claim “subtitling helps improve foreign language skills and can also create awareness and provide motivation to learn languages, in both formal and informal contexts” (“Subtitling to learn foreign languages,” 2011, p. 1).

In what Vanderplank (2010) referred to as an extremely well-designed, landmark study of the effect of interlingual subtitles on children’s vocabulary learning, Koolstra and Beentjes (1999) show that “vocabulary acquisition and recognition of English words were

highest in the subtitled condition, indicating that Dutch elementary school children can incidentally acquire vocabulary in a foreign language through watching subtitled television programs” (Koolstra & Beentjes, 1999, p. 51). This study is especially important because it is the first of its kind to study whether or not children are able to learn from subtitled programs in a non-educational setting. Complementing the research that has been carried out with respect to the formal classroom or instructional setting, Koolstra and Beentjes are the first to show that the use of subtitled television programming provides the same benefits as when used in formal settings.

The use of audiovisuals in the foreign language acquisition process has a multitude of benefits: “Students using captioned materials show significant improvements in reading comprehension, listening comprehension, vocabulary acquisition, word recognition, decoding skills, and overall motivation to read” (Parks, 1994, p. 1). Not only does this medium allow for incorporating context-rich authentic materials (whose original target population happens to be native speakers of the target language), but also has proven to have an effect on viewers’ motivation, attention, and affect (Baltova, 1994). According to Stephen Krashen’s (1982) theories on second language acquisition, “The best methods are [...] those that supply ‘comprehensible input’ in low anxiety situations, containing messages that students really want to hear” (Krashen, 1982, p. 7).

As has been evidenced by substantial research, subtitled and captioned audiovisual materials are beneficial to language acquisition. One of the reasons, perhaps, lies in the inherent entertainment value of films and television programs in and of themselves. It is reasonable to conclude that audiovisual material is generally considered to be motivational, and that viewers have a desire to understand and comprehend what is taking place. Brij Kothari (2005) demonstrates this concept when speaking about his program of SLS in India:

Bollywood songs are consumed with a passion all across India, in many languages. Our outreach model is perhaps laughably simple. Slide SLS into songs that people already watch. The singing along begins automatically. Reading becomes just a by-product of entertainment (Kothari, 2005, p. 2).

Incorporating these types of resources into the language learning process supports the idea of including content that the student is generally interested in. For example, in their study on the acquisition of vocabulary by Dutch children using English language television programs with Dutch language subtitles, Koolstra and Beentjes (1999) report:

Viewers in small European countries generally have a positive attitude toward the English language. English is considered to be a valuable language for international contacts, and young people especially find English a “cool” language because it is the language of most popular music and films (1999, p. 53).

This aspect of the language acquisition process is especially important for language instructors. With the multitude of audiovisual resources available today, and the advancing technology that allows for including or generating subtitles and/or captions with virtually any media product, the opportunities to tailor authentic material for “comprehensible input” and relevant material (meaning information that the learners genuinely want to see or know) are limitless. As such, professional educators have access to a very powerful pedagogic tool that, when properly utilized, can promote rapid and efficient language acquisition.

In addition to the explicit acquisition that can be credited to the use of captions and subtitles in language learning, there are other by-product gains that are the result of their use. Talaván Zanón (2006) shares that “subtitles can motivate students to study [...] outside the classroom context, especially by watching TV and cinemas, listening to the original

dialogues” (Talaván Zanón, 2006, p. 41) and Díaz Cintas (1997) confirms: “*Si el docente consigue iniciar al estudiante en el ritual cinematográfico de ver películas en versión original con subtítulos, por pocas que sean, estará directamente ampliando las posibilidades didácticas de los alumnos*” (Díaz Cintas, 1997, p. 190).

Just as instructors are required to know how and when to use subtitles and captions, students, too, should be trained and prepared to use this resource. Unfortunately, until recently, there has been little emphasis placed on teaching strategies for students to use while being presented with captions and/or subtitles. Research by Thompson and Rubin (1996) showed an increase in listening comprehension in students who were taught “cognitive and metacognitive strategies” (Danan, 2004, p. 67). Some cognitive strategies such as predicting based on context clues, which the audiovisual material provides for, and use of previous knowledge, such as known vocabulary, as well as metacognitive strategies, like planning and monitoring, all contribute to increased listening comprehension (Danan, 2004, p. 67). Learners are also very likely to develop their own strategies, after some experience with captioned video presentation. Results from a nine-week study conducted by Vanderplank (1988) show that although the captions might have been a disturbance at first, learners began to create their own strategies in order to get the most out of the captioned text. Furthermore, subjects claimed to only rely on captions for sporadic support and as a means of self-monitor to check comprehension (Vanderplank, 1990). In addition to formally teaching some common strategies, students should also be encouraged to develop their own, and be given the opportunity for trial and error, in order to hone their skills. Additionally, captioned and subtitled material should be carefully selected and introduced to novices, perhaps beginning with subtitled media and building up to captions as students advance.



### **3. Existing Research: Subtitling as a Learner Task**

While it is clear that existing research has indeed established the benefit of incorporating subtitled material for didactic ends in language teaching and learning, a more recent observation from a study carried out by Williams & Thorne (2000) has researchers and practitioners alike showing an increased interest in the use of audiovisual translation, specifically subtitling, as a learner task. Although the teaching of subtitling has traditionally been used for the training and professional development of translation students and practitioners, who when required to actually produce subtitles reported an increase in language acquisition (Williams & Thorne, 2000), this fringe benefit has led to the suggestion of its applicability to non-translation students in mainstream language education.

The use of translation in language teaching and learning has been discounted for many years as a result of the rise of modern approaches and methods. Many practitioners, in an effort to align themselves with these new approaches and methods, even discourage their students' use of translation altogether. Although it has been the subject of debate for many years, over the past few decades, the use of translation for language acquisition has received much attention and continues to be the focus of numerous studies, special journal editions, conferences, and research, including that of Lertola (2012), Neves (2004), Sokoli (2006), Talaván Zanón (2006, 2007, 2009, 2010a, 2010b, 2011), and Williams & Thorne (2000). Modern studies show that translation can be used effectively in language instruction and does, in fact, provide some great benefits (Hurtado, 1999).

Recently, there has been an increased interest in this proposed use of audiovisual translation, such as subtitling, dubbing, and audio description, for example, in first and second language acquisition. In May of 2010 the Directorate General for Education and Culture of the European Commission launched “a study aimed at analyzing the potential of subtitling to encourage language learning and enhance foreign language skills” (Media

Consulting Group, 2011, p. 4). The novel idea is to shift from simply using existing captions or subtitles to incorporating this task into the learning process. An exciting new trend that is being used in language learning today is the practice of subtitling as a task for students. There is significant interest in the area and a potential for an increased use of audiovisual translation in modern language teaching and learning. In a 2011 article, Dr. Mark Kaiser (2011), director of the University of California Berkeley Library of Foreign Language Film Clips recognizes, “after working with the subtitles that accompany a film, it is a particularly useful exercise to have students subtitle a clip from a film” (2011, p. 244). In addition, Kaiser notes that this task is beneficial not only for the student, but also for the instructor, “[...] as the exercise will demonstrate the level of students’ comprehension” (2011, p. 244). According to Danan, “As research in audiovisual translation has demonstrated in the last 20 years, translation is undoubtedly a significant communicative activity that can enhance second language acquisition” (Danan, 2010, p. 441).

In the midst of discussion regarding the use of translation in foreign language, which has been and continues to be controversial, in Díaz Cintas’ 1995 article titled “*El subtitulado como técnica docente,*” he proposed the potential for the use of subtitling as a teaching tool (Díaz Cintas, 1995). In this novel article, the author notes the benefits that teaching subtitling could afford the learner, not only with respect to the technique of subtitling, but also regarding some aspects of the language. Despite this proposal, it was not until 5 years later that the first significant piece of scientific literature was written about the use of subtitling as a learner task. Entitled “The value of teletext subtitling as a medium for language learning,” it was published by Williams and Thorne in 2000. The purpose of the study was to learn about the benefits that interlingual subtitling provides to the language learner. Conducted by the Department of Welsh at the University of Wales Lampeter, the study arose after observing several problems in the subtitling module for second language learners of Welsh. These

included the students' lack of familiarity with dialogue in soap operas, dramas, and comedies due to the fact that they were more accustomed and familiar with literary forms as well as the students' difficulty summarizing in order to redact target language speech in the L1. Although this might have been considered an obstacle, "it was decided to use the subtitling process as a medium for improving language skills" (Williams & Thorne, 2000, p. 222). Thus, 8 students participated in the pilot study by responding to questionnaires about improvements in their language skills after the subtitling module. They created interlingual subtitles in a multitude of audiovisual material genres from L2 Welsh into L1 English. It is important to mention that the stated purpose of the subtitling course is, in fact, to train audiovisual translators. The course garnered support from the Welsh language television channel as well as a translation agency and potentially resulted in students being awarded a certificate in screen translation. Interestingly, the course was therefore designed with professional ends in mind. Upon completion of the course the 7 participants (one student of the original 8 did not complete the course) that responded to the questionnaire claimed a marked improvement in their listening skills as well as higher confidence when faced with unfamiliar accents and dialects. They also claimed an increase in their working vocabulary, due to the variety of the audiovisual material that was subtitled. Furthermore, students noted higher awareness of their L1 competence and also claimed improved pronunciation skills. Some important observations from the subtitling trainer include the active role that students played, a broader range of writing style, research skill improvement and development, and an increase in students' cultural and historical awareness. The authors claim that the activity was so enjoyable for the students that "the gap between work and leisure narrowed" (Williams & Thorne, 2000, p. 226).

Despite the positive outcomes of this small study, of course, some problems were also identified. Primarily, the fact that subtitle training is time-consuming and requires a large

investment on the part of both the students and the tutors. Another issue lies in the expense of the equipment. However, as is noted in the article, as time has passed and improvements in technology yield more affordable and accessible products, this might be relieved. In fact, this is the case and access to subtitling software and media is readily available and accessible. The importance of technical assistance is also highlighted as a potential problem, affirming the necessity of having a tutor available. Lastly, although no longer a problem in the United Kingdom, as explained in the article, in some countries copyright laws could present potential obstacles.

Although the study was small and anecdotal in nature, it is significant in that it was one of the first academic papers to be written and subsequently cited that dealt with the effects of the subtitling task on language learners. The study lacks a firm methodology, making it difficult to replicate, and furthermore undercutting its reliability. That fact notwithstanding, the authors clearly acknowledge the anecdotal nature of the findings and do not attempt to generalize their observations. One of the study's strong points is the framework proposed which details the skills needed for interlingual subtitling. Altogether, nine different skills, presented in chronological order depending on when they are utilized in the subtitling process, are determined and explained. This framework can serve as a useful guide for subtitle training, perhaps reducing the large amount of time for training that was previously identified as a problem. Lastly, the fact that the observations were made from multiple points of view in order to achieve a global assessment of the linguistic improvements of the students lends more reliability to the study's results. Having input from both the learners as well as the tutors allowed for more benefits to be identified and problems to be noted, so that these could both be taken advantage of as well as improved in future studies and practice. Overall, this article has served as a seminal study that paved the way for

future researchers to dedicate their academic efforts toward the investigation of the potential of subtitling for language learning.

In a 2004 study, Neves reports on the benefits that an audiovisual translation specific module for university students of translation provided with respect to language skills. Noting that although most of the students in translation degrees do not go on to work as audiovisual translators, “rather than becoming proficient subtitlers, the students attending such courses gained skills and language awareness that reflected itself in their performance in other courses and activities” (Neves, 2004, p. 127). The author further explains that the hypothesis for this increased language awareness lies in the intersection of translation and audiovisual materials. While acknowledging the multiple approaches to foreign language instruction that exist and the variety of techniques and reasons why teachers do what they do, the author recognizes the fact that historically, translation was one of the primary ways of teaching foreign languages. A brief overview is presented on the use of audiovisuals in language learning, noting the benefits provided by the advent of the television and the sharing of audiovisual material between cultures. Having established a foundation for both the use of translation and the use of audiovisuals, the author goes on to explain the 45-hour undergraduate subtitling course that was conducted. Although not a traditional scientific study explicitly detailing methodology, the study does present anecdotal evidence of increased language awareness in the students: “both teachers and students were completely aware that in the process of learning how to subtitle they had acquired language awareness and were doubtlessly far more proficient both in the source language (English) and in their mother tongue” (Neves, 2004, p. 127). The author mentions that the subtitling task is a stepped process and therefore each step can be analyzed in order to determine the potential for learning, affirming that “subtitling calls for an enormous variety of skills that can be

improved through well staged activities covering the different steps of the subtitling process” (Neves, 2004, p. 127).

While the article focuses primarily on the use of subtitling for translator training and the benefits that are provided to the learner with respect to foreign language gains, one of the most significant takeaways is the recognition that this task is well suited for other learners, not just those pursuing degrees in translation: “It became obvious that through training in subtitling students can improve their language skills and that the various techniques can be used to advantage in the training of translators in general and even in the teaching of languages” (Neves, 2004, p. 127). These observations are extremely positive for the application of this professional task as a didactic one for language learners, and for language learners for specific purposes, as is the case with the present study.

Interest in the area of subtitling as a learner task began to pique in the early to mid-2000s and academics and practitioners alike began carrying out studies as well as testing the potential of this ‘new’ task. In 2006, the Laboratory of Educational Material of the Hellenic Open University developed a software tool for student creation of subtitles. Although not an experimental study, Sokoli (2006) reported at the 2006 Multidimensional Translation Conference, MuTra, on the basic premise for the use of such a tool in language learning. According to the author, the following are provided when utilizing this technique:

- Active learning and task-based activities which integrate contextualized language input and authentic elements of culture;
- Multimedia as the central focus of an activity;
- Easily replicable activities requiring only low-level computer skills; and
- Tasks with solid methodology that can easily be incorporated in multiple languages.

The report further explains the benefits of subtitling for translation students and advocates for the necessity to include active tasks to fully engage learners. Subsequently, the Learning via Subtitling, LvS, and interface is presented and described (2006).

Despite the fact that this paper is more informational than academic research (similar to the report from Williams and Thorne (2000)), the information provided with respect to the needs of language learners' use of multimedia is positive. Not only is ample background information provided about the use of multimedia in foreign language learning, but also the author reports on specific reasons why the use of subtitled material and subtitling as a task are advantageous for language learners. The author argues that students must be actively engaged and therefore a series of needs must be met in order to "counter passivity" (Sokoli, 2006, p. 2). The LvS tool allows teachers and students to meet those needs.

This work, which was submitted as a proposal to the European Community "Socrates" program and was subsequently selected, became known as "LeViS: Learning via Subtitling: Software & Processes for Developing Language Learning Material based on Film Subtitling. The project, which ended in 2008, provided improvements in the software and wide dissemination of information about the potential of subtitling as a task for learners. It also provided teachers with an easy to use tool for incorporating these tasks into their practice (Sokoli, 2006).

In 2006, Talaván Zanón presented a detailed proposal for the use of subtitling as a learner task. The proposal outlines the due historical and theoretical bases for the use of subtitled material, and moves on to describe the method for implementing a subtitling task for foreign language learners, either from L2 to L1 or vice-versa. The different software available at the time is discussed and other considerations are outlined, such as the selection of video clips to be subtitled. The author highlights some of the benefits, such as the flexibility in delivery, either face-to-face or online, the increase in student motivation that can

result, and the idea that the task will enable learners to extend their knowledge to other audiovisual products in a critical way (Talaván Zanón, 2006, p. 41).

Since the original proposal in 2006, Talaván Zanón has become one of the most prominent researchers with respect to the use of audiovisual translation and language learning. With her 2009 doctoral thesis, “*Aplicaciones de la traducción audiovisual para mejorar la comprensión oral del inglés*” [Applications of Audiovisual Translation for the Improvement of English Listening Comprehension Skills], she became one of the first researchers to conduct extensive inquiry into the use of subtitling as a task for language learners. The author details the specifics of the quasi-experimental research that was conducted. After establishing the research problem and the research questions, the author explains three preliminary studies that were carried out from 2005 to 2007. These details give the results of the study reliability and validity, making the study easily replicable for future researchers. A pilot study, informed by the three preliminary studies, was carried out before the final, main study was conducted.

Fifty subjects from the public language school “Las Rozas” in Madrid, divided into two groups of twenty-five, made up the studied population. The subjects had A2 level in English in accordance with the Common European Framework of Reference for Languages, or CEFR. Utilizing audiovisual texts, information systems, and subtitling software, students subtitled clips of the television series *Friends* from the original version in English into Spanish. The results of the study showed a significant increase in the listening comprehension skills of the learners as a result of the subtitling condition.

Continuing her extraordinary research in the area, Talaván Zanón (2010a) reports on an empirical study of 50 adult Spanish learners with A2 (CEFR) English level. Divided into 2 groups of 25 whereas both underwent the entire lesson, only the experimental group completed a subtitling task, once again utilizing clips from the television series *Friends*.



Details of the steps that were followed are presented and the timing of the lesson is also discussed. The author claims that, based on the post-test of both the experimental and control groups, which showed an increase in the experimental group's listening comprehension skills, "audiovisual translation in the form of subtitling can be perfectly applied to FLL [(foreign language learning)] and its practice can positively improve listening comprehension skills in students of English as a foreign language" (Talaván Zanón, 2010a, p. 1319).

However, despite the positive results of the case study, there are some failures that do not allow the results to be generalized. First and foremost, there is no explicit methodology that is presented, nor are the details of the pre and post-test provided. Although the author does include rudimentary graphs of the results from the aforementioned tests, neither of the graphs is complete, as they are not duly labeled on their respective x and y-axis to show what the data represents. It can be inferred from the narrative that the graphs represent students and their scores on the mysterious tests, but explicit labeling is needed and perhaps the inclusion of the testing instruments as annexes.

Despite that fact that Talaván Zanón's (2010a) report lacked some significant details to make the findings substantially credible, this study has been published twice over - once again in 2010 and then in 2011 (Talaván Zanón, 2010b, 2011). Subsequent publications of the same study do, in fact, provide more details on the methodology and the pre and post-tests. Furthermore, in the 2011 publication of the study, significant statistical analysis has been conducted in order to provide testing of the hypotheses, utilizing the test results from the groups. Thanks to the hypothesis test and the preliminary analysis, the main research hypotheses are validated. The value of subtitles as support for comprehension and the value of subtitling as an active and dynamic strategy to improve [listening comprehension] are confirmed" (Talaván Zanón, 2011, p. 213).

The most recent scientific research directly related to subtitling as a task for language learners focuses primarily on incidental vocabulary acquisition. Lertola (2012) reports on a quasi-experimental study carried out at the National University of Ireland, Galway. Based on the cognitive theory of second language acquisition, the author describes a study conducted over 2 years of the second year undergraduate Italian course and “investigates the effects of the subtitling practice on incidental vocabulary acquisition in the Italian foreign language class” (Lertola, 2012, p. 61). Utilizing a mixed-methods, quasi-experimental design, the study establishes two hypotheses as the starting point with respect to incidental foreign language vocabulary retention as a result of subtitling: 1) both the subtitling and non-subtitling condition will increase L2 vocabulary retention, and 2) more significant L2 vocabulary retention will be seen in the subtitling condition. With a total number of 16 subjects, A2 (CEFR) Italian level as determined after completing a level test, divided into an experimental group of 6 students and a control group of 10 students. All students also completed a pre-test to ensure that the target vocabulary words were unknown. Both groups conducted pre-viewing activities, and the experimental group subtitled clips from Italian into English, and the control group conducted other task-based activities and writing activities related to the same clip, conducted 1 hour per week over 4 weeks. Upon completion, an immediate post-test was given as well as a follow on delayed post-test 2 weeks after completion of the task.

The results were gathered and then statistically analyzed utilizing the Wilcoxon Rank-Sum Test. With respect to the first hypothesis, “a clear improvement in learners’ incidental vocabulary acquisition from pre-test to immediate and delayed post-tests” was noted (Lertola, 2012, p. 61). In the case of the second hypothesis, the results from the delay post-test were the most significant. With only 16 subjects, the results cannot be extrapolated, however, they do support other positive results obtained in recent academic research with respect to subtitling as a task for language learners.

This noteworthy study can be commended for its overall organization and attention to methodological details. The study is very well designed and duly based on the relevant theoretical frameworks. Furthermore, the long-term duration of the study made prior observation feasible, thus aiding in its design. The pre and post-tests as well as the delayed post-test contribute significantly to the reliability of the small study and the thorough statistical analysis, once again based on vetted instrumentation, yield quite reliable results.

#### **4. Summary and Implications of Literature Review**

As detailed in the review of historical academic work in the field related explicitly to the use of subtitling as a language learning tool, overall, it can be concluded that subtitling as a task for language learners can increase language acquisition, be it in the form of listening comprehension, vocabulary acquisition, or language awareness. While Williams and Thorne's (2000) basic but groundbreaking study provided merely anecdotal results, it has opened the field for further research, and has reignited the age-old debate about the place of translation in foreign language learning, and including in said debate, perhaps for the first time, the field of audiovisual translation.

Meanwhile, Talaván Zanón's (2006, 2007, 2009, 2010a, 2010b, 2011) conclusions from the studies that were carried out within the context of listening comprehension in learners of English provide a solid theoretical and experimental foundation for further study, in the form of replication as well as extension. One of the next logical steps is to apply the same techniques to test the effects of subtitling as a learner task on the listening skills for learners of English, but within a unique context. Thus, the present study has taken that step and moved from the context of general English learners, as was the case with Talaván Zanón's (2009) study, to learners of English for Specific Purposes (ESP), specifically for English language learners for military purposes. It is important to note that while Williams and Thorne (2000) opened the door for further study on the effects of subtitling on the

language learner, Talaván Zanón was one of the first researchers to dedicate extensive study to the area, paving the way for future research. Without these significant studies, the present proposed study would not be possible.

Having established statistically that the subtitling condition does, in fact, increase listening comprehension in learners of English, Lertola considered the effect of the subtitling condition on incidental vocabulary acquisition. While the study focused on L1 English learners of Italian, the results are still an important contribution to the current state of the art. Acknowledging the fact that the study's results are merely anecdotal and cannot be extrapolated due to the minimal number of participants, the fact remains that the study yielded positive results, lending itself to further inquiry with respect to the effects of subtitling on vocabulary acquisition. Thus, the present proposed study has continued in the same vein, relying on the foundational work provided by Lertola (2012) to determine the effects of the subtitling condition on incidental vocabulary acquisition within the ESP context of English for the military.

Lastly, it is important to mention that all existing studies have been carried out in a traditional, face-to-face teaching environment. One of the recommendations for further study even suggests that the technique is so flexible that it lends itself for use in a virtual learning environment:

One of the major advantages of the strategy presented in this proposal is the technological support with which it counts, that makes it possible to use it in both face-to-face and distance learning environments. In this context, the ideal situation is for the strategy to be integrated in a multimedia software or online courseware (Talaván Zanón, 2006, p. 41).

Accordingly, the researcher chose to take advantage of that benefit and conduct the present study utilizing an online learning management system in a virtual environment.

This literature review therefore has been an imperative aspect of the present study, showing what has been done thus far in the area and directly linking with the purpose and objectives being proposed. While the existing studies provide necessary foundational work related to the use of subtitling as a task for language learners, and does, in fact, answer questions, further inquire is necessary in order to continue adding to the current state of the art, thus justifying the need for the proposed study. Table 3 concisely shows the significant differences in the existing studies and the present proposed study, based primarily on suggestions for further research contained in the existing studies.

<b>Significant Differences in Existing Studies and Present Study</b>		
<b>Aspects</b>	<b>Existing Studies</b>	<b>Present Study</b>
Context	<p>Welsh-English Translation students (Williams &amp; Thorne, 2000)</p> <p>General English learners (Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011)</p> <p>General Italian learners (Lertola, 2012)</p>	English for Specific Purposes: English for the military (NATO context)
Setting	Traditional, face-to-face setting	Online learning management system (Canvas)
Language Skills	<p>Listening Comprehension (Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011)</p> <p>Incidental vocabulary acquisition (Lertola, 2012)</p>	Listening Comprehension via military radio.
Population	General language learners (university and official language schools students)	Members of the armed forces of NATO member countries

*Table 3. Significant Differences in Existing Studies and Present Study*

## **C. Conceptual Framework**

### **1. Introduction**

This section of Chapter 2 will identify, describe, and explain the lens through which this study has been conceived. As was highlighted in Chapter 1, much like the multidisciplinary foundation of Communicative Language Teaching (CLT), the present study is informed by multiple, interrelated concepts. These concepts are: CLT, English for Specific Purposes (ESP), task-based language teaching, listening comprehension, online learning theory, and audiovisual translation. The theories for each of these concepts will be subsequently identified and described, detailing the ways that each of the overarching concepts relates to one another within the context of the study. This section begins with a brief overview of two relevant Second Language Acquisition (SLA) hypotheses and a description of how they apply to the present study, and then continues with a more detailed description of CLT and English for Specific Purposes (ESP). Next, ESP is framed and applied to task-based language teaching, where theory is reviewed in detail. Finally, the ‘what’ - listening comprehension, the ‘where’ - online learning theory, and the ‘how’ - audiovisual translation, are reviewed and explained as they relate to both one another and this study.

The conceptual framework is again displayed graphically here so that the prominent concepts can be understood within the context of their subsequent description and review in terms of the present study. Communicative Language Teaching and Theory of Online Learning provide the larger framework for the study, as indicated by the yellow and blue arrows that unite to form the green frame of the study’s title in Figure 2, reproduced here. Audiovisual translation, task-based language teaching, listening comprehension strategy and assessment, and English for specific purposes contribute to the way that the study has been

conceived and carried out, indicated by the colors from the concepts and the corresponding words in the study's title.

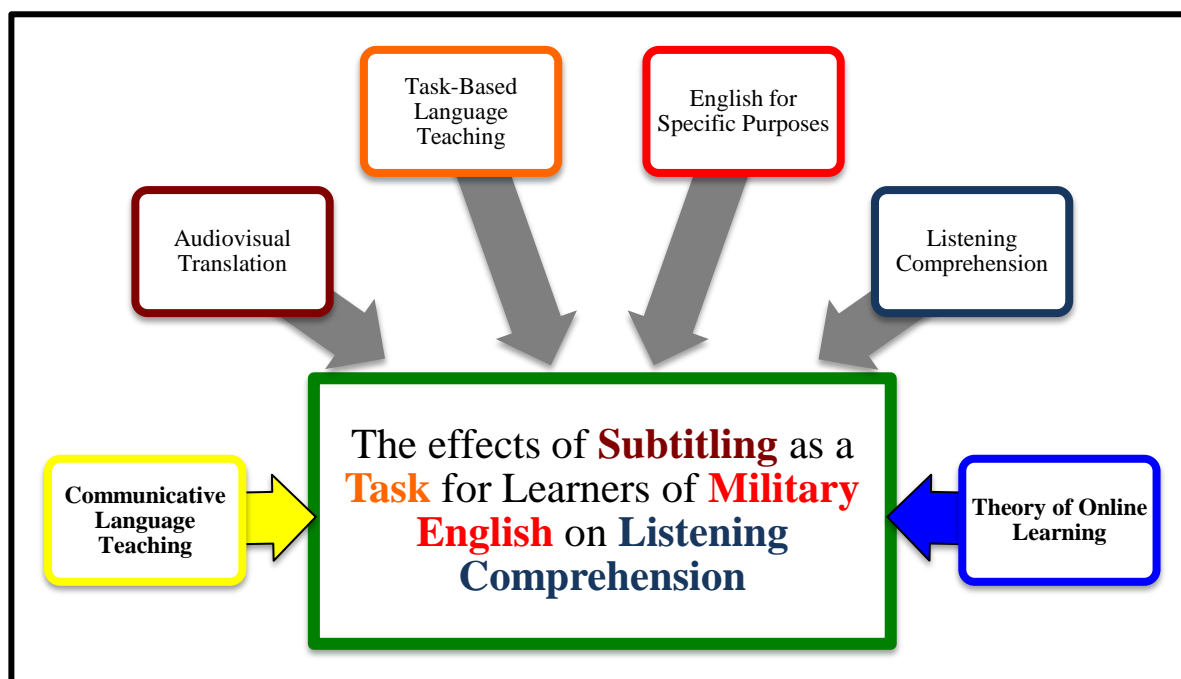


Figure 2: Conceptual Framework (referenced)

## 2. Krashen's Input Hypothesis and Affective Filter Hypothesis

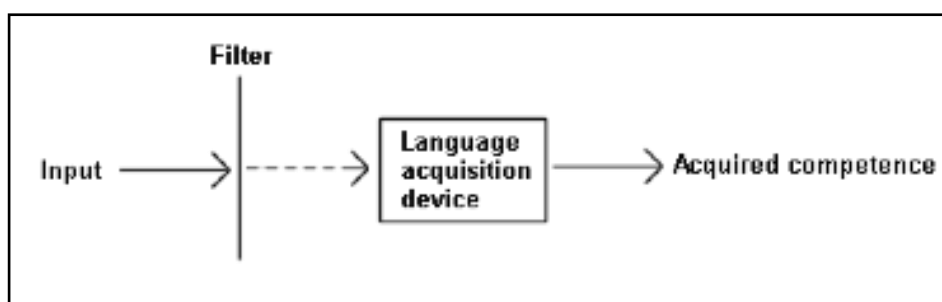
While an extensive review of second language acquisition theory would be excessive at this point, it is important to note some specific hypotheses that have contributed to the framework of the present study and the researcher's knowledge beliefs about the nature of language acquisition. Specifically, this research is based on Stephen D. Krashen's (1982, 1985) input hypothesis and affective filter hypothesis. According to Krashen (1982), "the best methods are therefore those that supply 'comprehensible input' in low anxiety situations, containing messages that students really want to hear" (1982, p. 1). Furthermore, the author argues that "the best methods might also be the most pleasant, and that, strange as it seems, language acquisition occurs when language is used for what it was designed for, communication" (Krashen, 1982, p. 7). This comprehensible input, ultimately to be used for communication, should be "interesting, a little beyond their current level of competence, and



not grammatically sequenced, but understandable using background knowledge, context, and other extralinguistic cues such as gestures and intonation” (Shrum & Glisan, 2009, p. 15). Audiovisual resources allow the teacher to choose material that, due to its authentic nature in that it was originally created for speakers of the target language, not only provide the necessary context for language acquisition to take place, but also provide for incorporating material that students would be interested in, resulting in a lower affective filter, and increased motivation. With respect to comprehensible input, audiovisual mediums allow the audience the opportunity to “view the message as much as listen to it” [(Baltova, 1994), as cited in (Danan, 2004, p. 67)]. Furthermore, in accordance with the affective filter hypothesis, “Language learning must take place in an environment where learners are ‘off the defensive’ and the affective filter (anxiety) is low in order for the input to be noticed and gain access to the learners’ thinking” (Krashen, 1982, p. 127). The use of audiovisual materials in the classroom contributes to lowering the affective filter, given the fundamental entertainment value of audiovisual material in and of itself, as mentioned in the previous section. Krashen explains that the affective filter is what allows comprehensible input to get through to the learner, resulting in acquisition:

Those whose attitudes are not optimal for second language acquisition will not only tend to seek less input, but they will also have a high or strong Affective Filter—even if they understand the message, the input will not reach the part of the brain responsible for language acquisition, or the language acquisition device. Those with attitudes more conducive to second language acquisition will not only seek and obtain more input, they will also have a lower or weaker filter (Krashen, 1982, p. 31).

Figure 3 shows the relationship between comprehensible input, the affective filter, and the language acquisition device. As input is received, it first encounters the affective filter before potentially reaching the language acquisition device. Thus, depending on the affective filter of the language learner, or the acquirer in Krashen's terms, the more or less likely it is for the comprehensible input to reach and be able to be processed in the language acquisition device and further generate acquired competence.



*Figure 3: Krashen's Affective Filter Hypothesis  
(Krashen, 1982, p. 32)*

As input is received, it first encounters the affective filter before potentially reaching the language acquisition device. Thus, depending on the affective filter of the language learner, or the acquirer in Krashen's terms, the more or less likely it is for the comprehensible input to reach and be able to be processed in the language acquisition device and further generate acquired competence.

According to a study by Borrás and Lafayette (1994), the use of captioned audiovisual material can be a means of lowering this affective filter, claiming that when working with captioned media, students tend to have a more positive attitude than students not presented with this resource. This positive attitude is reinforced by the instantaneous feedback and check on understanding that captions provide to the learner. Positive attitude and increased motivation, according to Krashen, yields a low affective filter and allows for more comprehensible input to make it through to the language acquisition device and therefore actually be acquired. Thus, with respect to second language acquisition theory, the present

study also recognizes that as a result of the use of audiovisual materials, the affective filter is lowered allowing for language acquisition to take place.

Using subtitling as a task not only provides the student with an opportunity to interact with contextually-rich whole language, but also the benefit of increased motivation, as students are likely to see the task as an entertaining activity, with content that is of interest, and with the outlook that the task could be used outside of the formal classroom environment. With respect to increased motivation and entertainment, Neves (2004) observed from her study:

The magical enchantment of the moving image, the attraction of working with computers and electronic equipment and, above all, the fun element makes tiresome tasks light and makes language learning pleasurable. Experience has shown that, while learning how to subtitle, students gain a greater command of language usage, in the broadest of senses, and above all, and pleasure in manipulating text to achieve the best possible results (Neves, 2004, p. 138).

Furthermore, because the task of subtitling yields a tangible product created by the student, this product can then be taken and shared with peers and others, creating not only a sense of pride, but also a feeling of relevance. With all of these factors contributing to increased motivation, the result, in theory, is a lower affective filter and potentially increased language acquisition. As Williams and Thorne (2000) make clear, “even for students who have no desire to work in the media, the combination of aural, visual and written elements required in order to subtitle competently makes it unique as a language-learning tool” (Williams & Thorne, 2000, p. 217). Talaván Zanón reiterates that the purpose of this activity is to take advantage of a professional task and its applications and use them for “didactic ends” (Talaván Zanón, 2010a, 2010b).

### **3. Communicative Language Teaching (CLT)**

The present study is wholly and fundamentally based on Communicative Language Teaching, or the communicative approach. However, before delving into the specifics of CLT, it is important to discuss a framework for language pedagogy and the way in which this researcher understands second language instruction, especially as those beliefs apply to the study at hand. While the term “method” has historically been used to refer to various different aspects of language teaching, because of this, it has ended up being ambiguous and void of an accepted meaning. Thus, in 1963, Edward Anthony proposed the first framework for language pedagogy in which he attempted to standardize the definitions and use of the terms approach, method, and technique and related each to the other in a hierarchical manner whereas “*techniques* carry out a *method* which is consistent with an *approach*” (Anthony, 1963, p. 63). Thus, an approach, according to Anthony, is “a set of correlative assumptions dealing with the nature of language and the nature of language teaching and learning” (1963, pp. 63–64). CLT has been defined as “a broad, philosophical approach [emphasis mine] to the language curriculum that draws on theory and research in linguistics, anthropology, psychology, and sociology” (Nunan, 2004, p. 10).

Thus, as an approach to language teaching and learning, CLT is based primarily on the theory that the purpose of language is communication (Brandl, 2007), and thus, the goal is for learners to achieve “communicative competence” (Hymes, 1972). Communicative competence, which involves linguistic, sociolinguistic, discourse, and strategic competence, refers to a language user’s knowledge with respect to grammar, such as syntax, morphology, and phonology, and social knowledge about how and when to use the language appropriately (Canale & Swain, 1980). Savignon (2002) sums up that the “essence of CLT is the engagement of learners in communication to allow them to develop their communicative competence” (Savignon, 2002, p. 22). While CLT is an approach rather than a strict method,

it is not founded on one single theory, but rather it is based on and includes multiple theories from various fields and “derives from a multidisciplinary perspective that includes, at the least, linguistics, psychology, philosophy, sociology, and educational research” (Byram & Hu, 2013, p. 136) as well as “cognitive science, educational psychology, and second language acquisition (SLA)” (Brandl, 2007, p. 6). David Nunan (1991) describes five features of CLT:

1. An emphasis on learning to communicate through interaction in the target language.
2. The introduction of authentic texts into the learning situation.
3. The provision of opportunities for learners to focus, not only on language but also on the learning process itself.
4. An enhancement of the learner’s own personal experiences as important contributing elements to classroom learning.
5. An attempt to link classroom language learning with language activities outside the classroom (David Nunan, 1991, p. 279).

According to Anthony’s (1963) hierarchical structure, the method must be consistent with the approach. Thus, a method is defined as “an overall plan for the orderly presentation of language material, no part of which contradicts, and all of which is based upon, the selected approach” (Anthony, 1963, p. 65). The aforementioned “orderly presentation of language material” must take the learner, the teacher, as well as the goals of the instruction or course into account. Factors such as native language, age, cultural background, and English experience of the learner, combined with teacher experience and knowledge and course goals should inform the method utilized. Multiple methods can be used within a single approach, such as the case of Content and Language Integrated Learning (CLIL) and problem-based

learning, both of which are methods that are consistent with the communicative approach (Anthony, 1963). I contend that the task-based language teaching (TBLT) *method*, which will be subsequently explored, is consistent with the communicative approach, based on Nunan's (2004) claim that, "[t]ask-based language teaching represents a realization of this [CLT] philosophy at the levels of syllabus design and methodology" (2004, p. 10). Techniques, then, are practices that are done in the learning environment, be it classroom or virtual, to carry out the method, and can be "a particular trick, stratagem, or contrivance used to accomplish an immediate objective" (Anthony, 1963, p. 66). Returning to Anthony's (1963) hierarchical structure, for the purpose of this study, the relationship between approach, method, and technique are to be understood as follows: task-based language teaching being the method is based upon and consistent with communicative language teaching, the approach, be means of subtitling as a learner task, also known as the technique.

This study, being founded on the principles of CLT, can now be analyzed with respect to the five characteristics that Nunan (1991) proposed. Participants in the study were given the opportunity to utilize authentic texts (2, 5) in order to create subtitles (1, 3) and evaluate their own language learning, all through an online learning management system (4). Based on the approach adopted, that being CLT, the next step in the hierarchy framework of language pedagogy is the method, in this case, task-based language teaching.

#### **4. English for Specific Purposes (ESP)**

While CLT is the primary approach upon which this study is based, English for Specific Purposes (ESP) as an approach to language pedagogy also plays an important role in informing this research. Considering the nature of the "Tactical Communications English" course offered at the Marshall Center, while it is certain that the members of assistance teams must have a minimum intermediate level of general English, the aforesaid course is not, in fact, a course in general English. On the contrary, the very nature of the English required for

the advisory team mission, and thus the course, based on the mission and given that the language is used within a very specific context, is an English for Specific Purposes course. However, ESP does not refer to the language itself used within a certain context, but rather the *teaching* of the language to be used within a certain context. ESP is not the English, ESP is *the way* the English is taught, to include course design, teaching, and assessment. In light of Anthony's (1963) framework on language pedagogy regarding approach, method, and technique, "ESP is an approach [emphasis mine] to language teaching in which all decisions as to content and method are based on the learner's reason for learning" (Hutchinson & Waters, 1987, p. 19). Therefore, once again in keeping with Anthony's hierarchy, ESP as an approach entails certain methods and techniques (the execution of the method, in accordance with the approach) that will be further explored in the following section on task-based language teaching (TBLT) and the pedagogical task as they apply to this research.

Multidisciplinary in nature ESP, according to Dudley-Evans and St. John (1998), has been said to "lack an underlying theory" (1998, p. 1). Rather, as opposed to relying solely on a single theoretical framework, ESP is informed by the research and theoretical foundations of various other fields. Given the fundamental multidisciplinary nature of ESP in that it "makes use of underlying methodology and activities of the discipline it serves" (Dudley-Evans & St. John, 1998, p. 4), this multidisciplinary footing is more than welcome – it is an inherent necessity. The teaching of English for Specific Purposes without the supporting methodology of the discipline for which the teaching has been designed is not, therefore, ESP. Coincidentally, almost all of the academic writing on ESP focuses on the 'how' of the teaching methodology and on linking curriculum to needs analysis, without much emphasis on the theory of ESP itself (Dudley-Evans & St. John, 1998). While there may not be a solid theoretical foundation upon which ESP is built, there are themes that are interwoven as a common thread in ESP including "needs analysis, text analysis, and preparing learners to

communicate effectively in the tasks prescribed by their study or work situation” (Dudley-Evans & St. John, 1998, p. 1). These commonalities amongst ESP courses focus on accomplishing the goals that the learners have for using the language within the specified context.

In general, an ESP course could be designed and carried out for any discipline, such as English for the tourism industry, for the medical industry, for law enforcement, for academics, or any other specified field within which English will be used, as the name states, for a specific purpose. While ESP does fall within a larger concept of Language for Specific Purposes (LSP), more importantly, ESP can be divided into two sub-categories based on the where they will be used, either academia or in the workplace: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP) (Dudley-Evans & St. John, 1998). These can be further delineated into various subfields, depending on when the course is taking places in relation to the learners’ experience. For example, it could be a course for non-native English speaking students in academic English prior to beginning their first semester at a U.S. university, in which case it would be classified as a “pre-experience” course. However, a course in medical English for doctors who are already well into their careers as medical professionals would qualify as a simultaneous or “in-service” course (Robinson, 1991).

According to Dudley Evans and St. John (1998), there are certain characteristics of ESP, both absolute and variable. The absolute characteristics of ESP are the following:

1. ESP is designed to meet specific needs of the learners;
2. ESP makes use of underlying methodology and activities of the discipline it serves;
3. ESP is centered on the language (grammar, lexis, register) skills, discourse and genres appropriate to these activities.



Meanwhile, the variable characteristics of ESP are:

1. ESP may be related to or designed for specific disciplines;
2. ESP may use, in specific teaching situations, a different methodology from that of General English;
3. ESP is likely to be designed for adult learners, either at a tertiary level institution or in a professional work situation. It could, however, be for learners at secondary school level;
4. ESP is generally designed for intermediate or advanced students. Most ESP courses assume some basic knowledge of the language systems  
(Dudley-Evans & St. John, 1998, pp. 4–5).

Recognizing ESP as an *approach* to language teaching is import to keep in mind for the purposes of this study, as the course upon which this study was inspired, the “Tactical Communications English” course at The George C. Marshall European Center for Security Studies, is an ESP course which was designed particularly for assistance teams assigned to the NATO mission in Afghanistan. The target audience consists of military members from NATO and PfP countries, and the communicative need is that of an operational context. The learners must not only possess a strong intermediate level of general English, but also have the specific need to be able to utilize technical, mission-related vocabulary and radio procedures within the context of the advising mission in Afghanistan. With respect to the absolute characteristics of ESP, the “Tactical Communications English” workshop for the NATO advisory teams is meant for NATO staff and operational purposes, it makes use of the activities, such as radio communication, of the discipline, and it focuses on the language appropriate to the activity, register and lexis. With respect to the variable characteristics, this case is designed for adult learners who have an intermediate level, and who have more than

simply a basic understanding of the language. Furthermore, it is quite obviously designed for a specific discipline: staff and operational military.

Lastly, while the teaching methodology may be different from traditional, general English methodologies, due to the specialized nature of the English being taught, methodologies can and should be tailored so as to provide learners with the opportunity to acquire the language while respecting the way that learners will be required to use it. For the purposes of this study, based upon the “Tactical Communications English” course, incorporating and taking advantage of technology and multimedia content is clearly one way to incorporate teaching techniques tailored for the language, as it will be used.

### **5. Task-Based Language Teaching (TBLT)**

Task-based language teaching, one of the methods consistent with the communicative approach, is an integral part of the framework upon which the present study has been conceived, planned, and carried out. Whereas the knowledge claims regarding language pedagogical approach for this study have been primarily based on the communicative approach of CLT, as well as secondarily influenced by ESP, the method, based on the approach, is that of TBLT. Central to the core of this study, in terms of research design, is the experimental treatment. While these design decisions are further detailed in Chapter 3, it is important to note here that the treatment that the experimental group will be exposed to, known as the experimental treatment or the independent variable, is a task as defined within the context of TBLT: a subtitling task. Thus, the TBLT method will be reviewed here to provide the context for its use in this study.

TBLT is essentially a method (a procedural plan for presenting and teaching of language) that focuses on authentic language in which learners utilize the language to complete meaningful tasks. In basic terms, TBLT could be described as essentially asking students to complete routine tasks such as making a deposit at the bank, dropping of the dry-

cleaning, asking for directions, making a reservation, or picking up a prescription form the pharmacy, to name just a few, *in the target language*. David Nunan (2004) outlines six practices and principles of TBLT as follows:

1. A needs-based approach to content selection.
2. An emphasis on learning to communicate through interaction in the target language.
3. The introduction of authentic texts into the learning situation.
4. The provision of opportunities for learners to focus not only on language but also on the learning process itself.
5. An enhancement of the learner's own personal experiences as important contributing elements to classroom learning.
6. The linking of classroom language learning with language use outside the classroom (Nunan, 2004, p. 1).

TBLT as a method of language instruction incorporates *tasks* as the central focus of the language instruction, as opposed to a focus on form such as grammar and vocabulary. The desired outcome is the successful completion of the task in accordance with a set standard for completion, utilizing the linguistic resources that are available to the student. Instead of focusing learners' attention on the use of a specific linguistic construct, the task is the focal point, and the learners are therefore encouraged to utilize the whole of their linguistic knowledge in combination in order to complete the task. In the case of the present study, the task, also the independent variable and the treatment applied to the experimental group, is the creation of interlingual subtitles from videos released by NATO's ISAF mission in Afghanistan from 2001 to 2014.

Before delving into the specifics of this study's subtitling task, it is important to explore the concept of task in TBLT. As described by Nunan (2004), there is a distinct difference between real-world or target tasks and pedagogical tasks (Nunan, 2004, p. 1) that must be noted in order to accurately understand the way that tasks are used as a language teaching technique. Real-world tasks are those tasks, as previously mentioned, that could be easily found on a common person's to-do list. These may include visiting the doctor, buying groceries, meeting with a child's teacher, signing up for a gym, or hiring someone to do a handyman job at home. As Nunan (2004) highlights, target tasks are "the sorts of things that the person in the street would say if asked what they were doing" (2004, p. 2). These tasks are examples of actual everyday tasks – not specifically defined for the context of language instruction, but rather, they are *real* tasks that people actually carry out in the *real world*. In contrast, the tasks that become the central focus in TBLT are pedagogical tasks that are tailored, in both definition and standard for completion, for the language learning purpose, as learners in a foreign language in a learning environment, not the real world, carry them out notionally. Ellis (2003) defines a pedagogical task as:

[...] a workplan that requires learners to process language pragmatically in order to achieve an outcome that can be evaluated in terms of whether the correct or appropriate propositional content has been conveyed. To this end, it requires them to give primary attention to meaning and to make use of their own linguistic resources, although the design of the task may predispose them to choose particular forms. A task is intended to result in language use that bears a resemblance, direct or indirect, to the way language is used in the real world. Like other language activities, a task can engage productive or receptive, and oral or written skills, and also various cognitive processes (Ellis, 2003, p. 16).

In addition to reiterating that a task must keep the learner's focus on achieving an outcome, this definition also highlights the fact that tasks for TBLT strive to focus learners' attention on the meaning of the language - function rather than form - while at the same time recognizing that some tasks may be designed to lead learners in a certain direction. This may certainly be the case when teachers have a specific linguistic, form-related goal in mind, but at the same time, it leaves the learner in control to make the appropriate linguistic choice. Lastly, the proposed definition states that pedagogical tasks should be defined as being in parallel to the activities of the real world, rather than tasks in isolation, disconnected from what may be found outside the classroom. This aspect can be directly correlated to Nunan's (2004) "linking of classroom language learning with language use outside the classroom" (2004, p. 1) as one of the fundamental components of TBLT.

While the aforementioned qualification of a pedagogical task is a complete one, in Nunan's (2004) more simple terms, a pedagogical task is defined as "a piece of classroom work that involves learners in comprehending, manipulating, producing, or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than to manipulate form" (2004, p. 4). Once again, the definition is centered on the task and the goal of task completion. The importance of a focus on meaning is highlighted, as is the contrast between the use of the communicative language to "express meaning" and to ultimately complete the task.

Recognizing that there are multiple definitions for pedagogical tasks, a fundamental concept of tasks as noted in the definitions is that the desired outcomes of the tasks are non-linguistic. According to Willis (1996), a pedagogical task is "where the target language is used by the learner for a communicative purpose (goal) in order to achieve an outcome" (1996, p. 23). That is, rather than the focus of successful completion of the task be defined in

terms of linguistic achievement, such as ‘correctly utilize the past perfect in 80 percent of the exercises,’ the desired outcome is related to completion of the task itself and “usually requires the teacher to specify what will be regarded as successful completion of the task” (Richards, Platt, & Weber, 1985, p. 289). Once again, we think of basic, everyday tasks (like buying a newspaper, applying for a job, or organizing the mail) that “involve communicative language use in which the user’s attention is focused on meaning rather than grammatical form”. Once again, as noted by Skehan (1998) pedagogical tasks are those where “meaning is primary” and “the assessment of the task is in terms of outcome” (1998, p. 95).

Therefore, because the present study makes use of subtitling as the ‘technique’ in terms of Anthony’s (1963) hierarchical relationship between method, approach, and technique, the subtitling task can be viewed in terms of the previously stated definitions for a pedagogical task. The central question under study relates to the use of a subtitling task for improving English listening comprehension within the context of English for the military. The subtitling task utilizes authentic texts, NATO-released gun camera video with accompanying audio, to be subtitled. Furthermore, while the task may not be a real-world activity for all, it does in fact emulate the real-world activity of creating interlingual subtitles – a task done by thousands of audiovisual translators each day. The subtitling task has a non-linguistic outcome in that the creation of the subtitles is regarded as successful completion of the task itself, without specific regard to form, as would be the case in the traditional sense of the translator’s standard for successful completion of the task in the real world. In terms of Nunan’s (2004) definition of a pedagogical task, the participants in this study, just as audiovisual translators in the real world, must first view and listen to the source language audiovisual product (“comprehending in the target language”), transcribe what is heard and understood based on the audio and visual scenes available (“attention is focused on

mobilizing their [...] knowledge”), and create interlingual subtitles of the videos (“express” and “convey meaning rather than to manipulate form”) (Nunan, 2004, p. 4).

## **6. Listening Comprehension**

As the dependent variable, listening comprehension has influenced the conception, design, and procedural aspects of the present study. The problem statement as well as the first and second Research Questions are directly related to listening comprehension skills over the military radio. However, in order to understand the dependent variable more fully, and to put it into the context of this research project, it must first be explored and defined so that it can be understood as it relates to the research design and follow-on analysis in the study at hand.

While languages may have historically been taught as four separate skills, reading, writing, speaking, and listening, according to The American Council on the Teaching of Foreign Languages’ (ACTFL) (2012) Proficiency Guidelines, communication is divided into three modes: interpersonal communication, interpretive communication, and presentational communication (2012, p. 7), positing that the four skills are to be used collectively in order to communicate, not in isolation, and that the teaching and assessing thereof should also be done with this in mind. As opposed to teaching one of the ‘four skills’ in isolation, then assessing it, the skills should be taught as they are used in real-world communication and assessed in the same way. The interpersonal mode of communication involves “active negotiation of meaning” (Shrum & Glisan, 2009, p. 155) in such contexts as spoken face-to-face conversation or written interactions through text, email, or social media, allowing for each participant to see how their message is being received, and how meaning can be negotiated if necessary, given the presence of the text and the producer thereof. This interpersonal communication involves both the presentational and interpretive modes in concert between two or more participants. On the other hand, interpretive communication can be understood as “one-way” communication, usually in the form of oral or written texts,

without the opportunity of the receiver to interact and clarify with the producer, that is, negotiation of meaning is not possible. This is because the producer is not available, as is the case with written text, for example – the author is not usually present – and therefore the receiver is not able to interact to clarify meaning, check for understanding, and etc. Examples of interpretive communication include listening to a recorded dialogue, reading a weather report, or watching a movie. It is also important to note that this interpretation means more than comprehension because it “implies the ability to read (or listen or view) ‘between the lines,’ including understanding from within the cultural mindset or perspective” (The American Council on the Teaching of Foreign Languages, 2012, p. 7) as well as the fact that participants “bring [their] own background knowledge and ideas to the task” (Shrum & Glisan, 2009, p. 155). In contrast, presentational communication is primarily concerned with “productive abilities: speaking, writing, showing” (National Standards in Foreign Language Education Project., 1999, p. 37). Some examples of presentational communication may be writing a report, or producing a recorded broadcast or newscast. Presentational communication “features formal, one-way communication to an audience of listeners or readers” (2009, p. 156) and once again does not involve the chance for the recipient to interact with the presenter or producer of the language to negotiate meaning (Shrum & Glisan, 2009). There is an inverse relationship between presentational communication and interpretive communication, meaning that the ‘consumer’ of presentational communication is the ‘actor’ in interpretive communication, and vice versa.

While listening comprehension, as a core skill, can be found within these three modes of communication, in both the interpersonal and the interpretive modes, this study focuses on listening comprehension within the context of the interpretive mode. That is, “interpretation of meaning in oral and printed texts [that] may also require a deeper knowledge of culture in



order to gain a cultural interpretation of a text” (Shrum & Glisan, 2009, p. 155). Therefore, as a component of interpersonal communication, what is listening comprehension?

Measuring the dependent variable is one of the key tasks of the present experiment, assessing listening comprehension. According to Buck (2001), “listening comprehension is a process, a very complex process, and if we want to measure it, we must first understand how that process works” (2001, p. 1). Therefore, the first step in understanding listening comprehension is to begin with a look at how the process itself takes place. The listening process is described as an “active cognitive process that requires an interplay between various types of knowledge” (Shrum & Glisan, 2009, p. 158). This knowledge includes both linguistic knowledge, such as syntax and semantics, as well as non-linguistic knowledge, such as information about content, context, and knowledge that the participant brings of the world in general. Shrum and Glisan (2009) state that participants engage the following while receiving interpretive communication:

- their knowledge of the target language , e.g. vocabulary, syntax;
- their background knowledge and experiences in the world;
- their knowledge of how various types of discourse, such as magazine articles, literary texts, radio broadcasts, and talk shows, are organized, i.e. use of cohesive devices such as pronouns, conjunctions, and transitional phrases to link meaning across sentences, as well as the use of coherence to maintain the message’s unity’
- their ability to hold information in short-term memory as they attend to the text; and
- their ability to use a variety of strategies to help them bring meaning to the comprehension task (Shrum & Glisan, 2009, p. 158).

These different types of knowledge are then relied upon while certain tasks are being carried out in order to process the incoming aural message that is being conveyed in interpretive

communication. Generally speaking, there are two accepted forms of processing information that can be applied to comprehension within the context of interpretive communication: bottom-up and top-down processing. Bottom-up processing refers to the idea that comprehension takes place in a sequential order that involves identifying smaller parts and putting them together to form larger ones, letters to form words, words to form sentences, sentences to form paragraphs, etc. Contrastingly, top-down processing is that “in which meaning is derived through the use of contextual clues and activation of personal background knowledge about the content of the text” (Shrum & Glisan, 2009, p. 159). That is, larger pieces of information are processed as a whole into their smaller pieces, utilizing knowledge brought by the participant to negotiate meaning. The most widely held view of information processing as relates to interpretive communication is that both top-down and bottom-up processing play a role in deriving meaning. Once again, according to Buck (2001), listening comprehension:

Is the result of an interaction between a number of information sources, which include the acoustic input, different types of linguistic knowledge, details of the context, and general world knowledge, and so forth, and listeners use whatever information they have available, or whatever information seems relevant to help them interpret what the speaker is saying (Buck, 2001, p. 3).

In summary, listening comprehension as a process involves two types of processing, and calls upon the listener to rely on various types of knowledge to attend to the constructing and deconstructing processes, top-down and bottom-up, of deriving meaning from the message.

Having examined listening comprehension as a process, we can now move forward to understanding listening comprehension as the dependent variable that will be measured in order to test the hypotheses in the study to determine the potential effects of the intervention,

subtitling as a task, under investigation. In Chapter 3, the instruments utilized to measure the dependent variable will be explained in detail and their construct validity, whether or not the tests measure what they are meant to measure (Robson, 2002), will be explored. First, before delving into construct validity, we must move toward a definition of the listening comprehension construct itself so that it can be subsequently measured and the measurement instruments validated.

Recognizing that there are a multitude of limiting factors that constrain the definition of a listening construct, Anthony Buck (2001) provides a definition of a default listening construct as “the ability to process extended samples of realistic spoken language, automatically and in real time; to understand the linguistic information that is unequivocally included in the text, and to make whatever inferences are unambiguously implicated by the content of the passage” (2001, p. 114). This means that the listener process the incoming message, which should be delivered at a natural rate of speech and be based upon real language, and that they are able to understand the linguistic meaning along with the implied meaning, if any. Given this definition, our listening construct in this experiment can now be applied and the validity of the instrumentation used to measure it can be further studied.

Testing the dependent variable, the listening comprehension construct as previously defined, requires many decisions to be made based on the purpose of the listening test. Buck (2001) posits that in order to create an assessment, one must transform “theoretical notions” of a construct into “a set of test items” (Buck, 2001, p. 61). The approach to assessing listening is deeply rooted to the method of language instruction, referred to above as theoretical notions, and historically there were three prominent ways of language testing linked to language pedagogy: discrete-point testing, integrative testing, and communicative testing (Buck, 2001).

The discrete-point approach is associated with the audio-lingual method which, being based on behaviorism, believed that “L2 should be taught without reference to L1 [because] students learn through stimulus-response techniques [where] pattern drills should precede any explanation of grammar [and] the natural sequence of LSRW should be followed in learning the language” (Shrum & Glisan, 2009, p. 444). This approach is similar to that of the previously mentioned concept of bottom-up processing in that it takes the individual, smallest parts of the language and tests them in isolation, such as specific grammar points, specific vocabulary, or specific language sounds – all without context to one another or context in use. Some examples of the types of testing used under this approach are word recognition tests, wherein test takers hear a single word, and have to identify the word. These words are usually those that formed a minimal pair with a single phonological element, for example, and the test taker would be required to distinguish between them in order to show listening proficiency. This is unrelated to communication, but rather, focuses on a linguistic aspect of the language instead of the whole language in use.

A second approach to language testing is integrative testing which are defined as “any procedure or task that causes the learner to process sequences of elements in a language that conform to the normal contextual constraints of that language” (Oller, 1979, p. 38). This refers to the language, as it is used, not as simple unrelated parts. The primary example of integrative language testing are those tests that deal with reduced redundancy, redundancy being those clues that relate to each other to provide meaning. If there are fewer clues (redundancy) for the tester to rely on, then they should be able to demonstrate their proficiency by making educated predictions about what will come. This is referred to as “pragmatic expectancy grammar” (Oller, 1979). Examples of tests associated with this type of approach include cloze tests, where a systematic removal of words from a chosen text results in a test where takers fill gaps in with words they think fit most accurately. Old-

fashioned dictations are another example of integrative test in which test takers listen to a text read aloud and write down what they hear.

As advances in theoretical understanding of language pedagogy continued to be made, a third type of testing emerged: communicative testing. Communicative testing is a result of the Communicative movement in language teaching, in which knowing a language does not simply mean knowing about the language but rather “means being able to use it in communication” (Shrum & Glisan, 2009, p. 447). Once again, this goes back to the idea of communicative competence and the importance of “whether [learners] can actually use [the language] to communicate in the target-language use situation, the real-world situation in which the language will be used” as the goal of foreign language instruction (Buck, 2001, p. 83). Communicative testing therefore focuses on making assessments of learners when they attempt to use the language in real, communicative situations, as opposed to testing what they know about the language, a contrast between communicative competence and linguistic competence.

Instead of jumping into a definition of communicative tests, let us first explore the attributes that are common to these tests, and then look at some of the potential drawbacks to this type of assessment. Communicative tests include authentic texts, require a communicative purpose, and provide an authentic task (Buck, 2001, pp. 85–91). Generally, authentic texts are those that are either from the target-language use situation directly, as in utilizing a product that was designed for the native-language market, or a text that would have the characteristics thereof. In requiring a communicative purpose, for example, test takers are not only asked to comprehend, but also to do something with the information that they obtain, instead of simply testing comprehension of a text. An example of this characteristic would be asking test takers to choose the most appropriate clothing to pack for an upcoming trip based on listening to a weather forecast. Lastly, authentic tasks are those

that “require learners to address an actual audience and mirror challenges faced by real individuals in real-world settings” (Shrum & Glisan, 2009, p. 371). Thus, in terms of listening comprehension, “a communicative test is one that better simulates the characteristics of target-language use in the real world and as such, it is just an attempt to test a richer, more realistic listening construct” (Buck, 2001, p. 92).

While communicative testing is an ideal way to measure learners’ proficiency, it comes with a set of unique issues and challenges. First, creating these assessments is not only time consuming, but also are limited based on the resources available. Furthermore, as a test maker, although we want to incorporate whole language, it is often difficult to find authentic texts that do not go far beyond the potential of test takers. That is, language taken from an authentic, in-use situation, may include much higher language proficiency than that of the test takers, and might need to be tailored. This could remove the authenticity requirement that is fundamental to communicative testing, and has to be considered. In short, creating communicative tests require careful attention and planning, and thus require test makers to dedicate more of their most precious resource to this type of assessment – time.

As per the aforementioned theoretical foundations defining the listening comprehension construct and the types of testing, the instruments utilized in this study for the purpose of measuring the independent variable fall into the category of integrative assessments, while at the same time incorporating aspects of communicative tests. According to Shrum and Glisan (2009), “integrative or global assessments assess the learner’s ability to use various components of the language at the same time, often requiring multiple modes or skills” (2009, p. 363). The instruments, those developed and implanted by the Tactical Communications English Workshop at the Marshall Center, are a type of listening cloze test, more accurately described as “gap-filling tests” (Buck, 2001, p. 70). The specifics of these instruments will be described in the instrumentation section in Chapter 3.

## **7. Online Learning Theory**

As previously noted, it is not practical or possible for each and every member of an SFAT to be able to attend the face-to-face Tactical Communications English workshop at the Marshall Center. Therefore, one of the aims of this study is to evaluate the potential of exploiting the real-world translator's task of audiovisual translation, subtitling, for language learning purposes through an online learning management system. This could potentially make it possible for one of the principal objectives from the aforementioned Tactical Communications English workshop, improved communication in English via military radio, to reach a broader audience. Furthermore, this circumstance in combination with the studies that were previously mentioned as relates to the use of subtitling as a task to improve listening comprehension follows the logical next step with respect to continued investigation into the potential of the application of an authentic, real-world task to be employed for non-professional, didactic ends. That is, what is for the audiovisual translator a professional task becomes for the language learner an educational task. Before development of any specific instructional methods or techniques, one must first consider the theory of learning, or combination thereof, that will inform the decisions that must be made to develop instruction. In order to understand the theoretical foundations of online learning that inform this study, the underlying theories of learning will be explained.

Similar to the way that various approaches, or theories, to language pedagogy exist, there are many different theories of learning, each influenced by the historical context surrounding the era in which they became prominent, and each with their own noteworthy proponents. The theory of online learning that contributes to the conceptual framework for the present study relies upon the behaviorist, cognitive, and constructivist learning theories. According to Ally (2004) "behaviorists' strategies can be used to teach the "what" (facts), cognitive strategies can be used to teach the "how" (processes and principles), and

constructivist strategies can be used to teach the “why” (higher level thinking that pro-motes personal meaning and situated and contextual learning)” (2004, p. 7). Additionally, the communicative approach to language learning must also be considered here with respect to online learning theory, as it is a fundamental element that has informed decisions regarding the development of the online learning environment.

The behaviorist theory of learning asserts that the learner is not actively involved in the process of learning, but rather, simply responds to the stimuli around them. This idea is similar to the idea of teachers ‘filling up’ students with knowledge. Behaviorism relies on reinforcement and punishment whereas learning becomes simply a change in behavior, and that this behavior change is observable. One of the most famous experiments done in behaviorism was that of Ivan Pavlov and his classical conditioning experiments involving dogs (Pavlov, 1927). Other notable behaviorists include B.F. Skinner of Harvard University. The implications of behaviorism on online learning involve sequencing from simpler concepts to the more complex, making learners aware of the expected result so they can self-assess, checks on learning and testing should be incorporated into the online learning sequence, and learners should receive input on their performance so they know how they are progressing and act accordingly (Ally, 2004).

In the 1960’s, cognitive learning theory began to move into the mainstream, replacing much of the ideas set forth by behaviorism. Cognitivists posit that the mind plays an integral role in processing information and that “people are rational beings that require active participation in order to learn, and whose actions are a consequence of thinking” (“Cognitivism,” 2015). These ideas are the foundation of learning as we currently understand it are inherently cognitive in that it is directly related to information processing in the brain. Cognitive processing theory focuses on input through the senses, moving into the sensory memory, and then into the working and long-term memories. In cognitive theory, the learner



plays an active role in learning. The implications of cognitive learning theory are great, and include organizing material in a way to promote the sensory systems for intake, such as “the proper location of the information on the screen, the attributes of the screen (color, graphics, size of text, etc.), the pacing of the information, and the mode of delivery (audio, visuals, animations, video)” (Ally, 2004, p. 10). Furthermore, for new information to be stored in long-term memory, it is important for learners to activate their prior knowledge that is already stored in the long-term memory. This includes providing advance organizers, conceptual models, or pre-tests to activate this prior knowledge. Like information processing in computers, information should be broken down to smaller parts, or chunked (Chase & Simon, 1973). Therefore, in online learning, a lesson could be mapped to the information as a whole in the form of a linear, hierarchical, or spider chart (Ally, 2004). Moreover, encouraging higher-level thinking skills, such as those at the top of Bloom’s (1956) taxonomy including analyze, synthesize, and evaluate. Some cognitivists also recognize the individuality of the learner and each learner’s unique learning and cognitive styles. Kolb (1984) describes a Learning Style Inventory based on his model of experiential learning that is used to determine the learning style of each individual, “Accommodating, Converging, Diverging and Assimilating” which can then be used to inform instruction techniques (1984, p. 41). Similarly, cognitive style is an individual difference that “refers to a learner’s preferred way of processing information; that is, the person’s typical mode of thinking, remembering, or problem solving” (Ally, 2004, p. 14). These individual differences each have implications for online learning, such as providing learners with different activities to process the same, new information. Furthermore, scaffolding should be provided to learners when needed, and intrinsic and/or extrinsic motivation should also be accounted for – especially intrinsic (Malone, 1981). One specific strategy through the concept of cognitive

learning theory noted by Ally (2004) relates directly to CLT, TBLT, and the listening comprehension construct previously discussed:

Simulation of the real situation, using real-life cases, should be part of the lesson. Also, learners should be given the opportunity to complete assignments and projects that use real-life applications and information (Ally, 2004, p. 17).

Recognizing the value of a blend of learning theories, the present study incorporates this cognitivist idea by utilizing authentic audio and video, and by utilizing the real-life task of audiovisual translation, in accordance with TBLT theory discussed previously.

While cognitivist theory focuses on information processing and information storage in long-term memory, the constructivist theory focuses on constructing meaning and knowledge rather than merely absorbing information. Constructivism, which is generally attributed to Jean Piaget (1896-1980), advocates for learning in context, allowing learners to interact with the information and to make connections with it as relates to their own personal life experiences. Rather than the learning experience being a ‘one-way street’, constructivism calls for engagement by the learner; that the learner is actively involved in the process of obtaining the information in order to create knowledge based thereon. The implications of constructivism for online learning include active, interactive, collaborative learning in which learners are able to construct knowledge, with plenty of time, on their own terms – giving the learner control, and should be meaningful so learners are able to personalize the knowledge (Ally, 2004).

In addition to the behaviorist, cognitivist, and constructivist learning theories, a fourth school of thought that has emerged during the last quarter of the 21<sup>st</sup> century, and that has become highly debatable, is known as connectivism. Siemens (2014) claims that while

“behaviorism, cognitivism, and constructivism are the three broad learning theories most often utilized in the creation of instructional environments [they] were developed in a time when learning was not impacted through technology” (2014, p. 1). Advances in technology that have occurred over the past several decades along with the changes that this technology have caused in teaching and learner call for the evaluation of existing theories of learning as they apply, or fail to apply, within the context of the new realm of learning with technology. Siemens claims that the existing theories of learning “do not address learning that occurs outside of people”, such as within organizations (Siemens, 2014, p. 3). Therefore, focus is placed on the information as well as the learning. Connectivism posits that “learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing” (Siemens, 2014, p. 5). Massive open online courses (MOOCs) have much to do with connectivism in that they consist of learning that takes place via a network of connected individuals, who “seek out information on their own online and express what they find” (“Connectivism (Siemens, Downes),” 2015).

While the proposed theory of connectivism does highlight some important aspects of learning that are affected by advances in technology, this study is based on the model proposed Ally (2004) of factors to be included when creating online learning, founded on the idea that “behaviorist strategies can be used to teach the facts (what); cognitivist strategies to teach the principles and processes (how); and constructivist strategies to teach the real-life and personal applications and contextual learning” (Ally, 2004, p. 24). These components are:

- Learner preparation, which includes providing the learner with pre-learning activities, rationale for taking the course, concept map, and desired outcomes (Ally, 2004).

- Learner activities are those that provide learners “with a variety of learning activities to achieve the lesson learning outcome and to accommodate learners’ individual needs. Examples of learning activities include reading textual materials, listening to audio materials, or viewing visuals or video materials” (Ally, 2004, p. 23).
- Learner interaction focuses on the user interface and the cognitive aspect of sensory input when designing the course materials as well as interaction with other learners, the instructor, and other contexts in order to construct meaning (Ally, 2004).
- Learner transfer is the idea that “opportunities should be provided for learners to transfer what they learn to real-life applications, so that they can be creative and go beyond what was presented in the online lesson” (Ally, 2004, p. 24).

For the purposes of the present study, the online learning environment that serves as the setting for the experiment has been designed in accordance with behaviorist, cognitive, and constructivist learning theories as applied to the design of online learning. The specific aspects of the learning environment will be provided in detail in the instrumentation section of Chapter 3.

## **8. Audiovisual Translation (AVT)**

With the supporting theoretical framework for Communicative Language Teaching, English for Specific Purposes, Task-Based Language Teaching, Listening Comprehension, and Online Learning established, the theory for Audiovisual Translation (AVT) as the dependent variable under investigation in this study will be detailed, reviewed, and applied to the context of the present research. A brief introduction of audiovisual translation, its hierarchical relationship within translation studies, and the implications thereof as they apply to this study will be presented.

There are many different subareas that make up the greater field of translation as a whole, including legal, technical, and medical translation, to name but a few. Audiovisual translation is another “branch of translation studies concerned with the transfer of multimodal and multimedia texts into another language and/or culture” (Pérez-González, Luis, 2009, p. 13). Subtitling, one of the subareas of audiovisual translation, may be to the general public one of the most familiar forms of translation, given its relation to widely-consumed audiovisual products, such as television and film. The field of audiovisual translation has generally been divided into the following four areas: dubbing, subtitling, localization, and media accessibility.

While this subdivision of audiovisual translation is mostly accurate, I do not wholly agree with this taxonomy, specifically regarding localization and the various applications of subtitling and media accessibility within the intralingual context. The *Routledge Encyclopedia of Translation Studies*’ (2009) entry on Audiovisual Translation focuses primarily on lip-sync dubbing and interlingual subtitling, leaving localization and media accessibility as separate entries. However, given the generality of the aforementioned definition, some cases of localization may be perfectly acceptable within the context of AVT, while others may not. Localization may be defined as “the linguistic and cultural adaptation of digital content to the requirements and locale of a foreign market” (Schäler, Reinhard, 2009, p. 157). This definition builds on the definition of AVT in that it incorporates the market-driven aspect that is central to localization, while highlighting the importance of both the linguistic as well as the cultural attribute. Furthermore, the idea of ‘digital content’ further broadens this definition to include the medium of the source text, which may include video games, webpages, and software.

The idea of media accessibility may also partly fall into this definition of AVT, while partly falling into the category, much like intralingual subtitling, of adaptation. In these cases,

such as the case of subtitling (or captioning) for the deaf and hard of hearing, the more accurate definition would be an adaptation from one mode to another, depending on the context. For example, the creation of intralingual subtitles (captions) of an English-language film for the non-hearing English-language market may not involve translation at all, but rather an adaption from the audiovisual source text to the written target text. This may involve a simple transcription of the oral text (including non-verbal sounds and other cues) as well as omission or expansion of information from the source text.

The most well-known modes of audiovisual translation are subtitling, both interlingual and intralingual, dubbing, and in recent years, the advent of media accessibility in various modes. According to Pérez-González (2009), while “the mainstream forms of audiovisual translation [are] subtitling and dubbing” (p. 13), film translation is specifically dominated by two modes: interlingual subtitling and lip-synchronized (lip-sync) dubbing. Lip-sync dubbing is “the re-recording of the original voice track in the target language using dubbing actors’ voices [...in which] the dubbed dialogue aims to recreate the dynamics of the original, particularly in terms of delivery pace and lip movements” (Luyken, Herbst, Langham-Brown, Reid, & Hermann Spinhof, 1991) as paraphrased and cited in (Pérez-González, Luis, 2009, p. 17). On the other hand, subtitling “consists of the production of snippets of written text (subtitles, or captions in American English) to be superimposed on visual footage – normally near the bottom of the frame – while an audiovisual text is projected, played or broadcast” (Pérez-González, Luis, 2009, p. 14). It is important to note that the idea of subtitling in the United States is most commonly associated with those subtitles that are interlingual, whereas intralingual subtitling is almost always referred to as captioning. That is, in the United States the term subtitles or subtitling will almost always be understood to mean interlingual subtitling, which therefore implies translation from a source language multimedia text to a target language written text. Captioning, on the other hand, is

usually understood to be a transcription or an adaptation of the multimedia text to written text, without a change in language.

While there does exist other fringe modalities of audiovisual translation, such as surtitling, subtitling lies at the heart of the present study as the task for the military language learners participating therein. For the purpose of this study, subtitling shall be understood as:

“a translation practice that consists of presenting a written text, generally on the lower part of the screen, that endeavors to recount the original dialogue of the speakers, as well as the discursive elements that appear in the image (letters, inserts, graffiti, inscriptions, placards, and the like), and the information that is contained on the soundtrack (songs, voices off)” (Díaz Cintas & Remael, 2007, p. 8).

Along with dubbing, subtitling is one of the most common and most widely recognized modes of audiovisual translation, often used in foreign-language film and television series. While the different types of subtitles can be divided based on a variety of parameters (Díaz Cintas & Remael, 2007), the classification of subtitles by linguistic factors is most appropriate for the purposes of this study. By subdividing the types of subtitles linguistically, there are two significant types: intralingual and interlingual subtitles. Intralingual subtitles are those subtitles that “involve a shift from oral to written but stay always within the same language” (Díaz Cintas & Remael, 2007, p. 14). Within the context of American English, the United States, and U.S. federal law, intralingual subtitles are more commonly called captions, closed captions, or simply “CC”, and are most closely associated with media accessibility for the deaf and hard-of-hearing. It is important to highlight again that intralingual subtitles do not involve a translation from a source to a target language, but they are rather a written transcription of the spoken text. According to the United States Federal Communications

Commission (FCC) (2015), “Closed captioning displays the audio portion of a television program as text on the TV screen, providing a critical link to news, entertainment and information for individuals who are deaf or hard-of-hearing” (FCC Consumer and Governmental Affairs Bureau, 2015). Furthermore, the United States National Captioning Institute’s “History of Closed Captioning” reports that the use of television captions for the deaf was first introduced in the United States in the 1970s. The technology, however, was originally conceived by the National Bureau of Standards to send information nationwide via the network television signal. In 1972 the Public Broadcasting Service (PBS) “made history as the first television program accessible to deaf and hard-of-hearing viewers,” broadcasting Julia Child’s *The French Chef* with open captions consisting of on-screen text that was permanently part of the transmitted program (National Captioning Institute, 2015). These open captions were transmitted as part of the broadcast, and, as they were an integral part of the audiovisual product, could not be turned off. In the meantime, closed captioning technology was being developed so that captions could be turned-on (decoded) by individuals that needed or wanted the service. As a result, on March 16, 1980 the first closed-captioned television series was aired, making television broadcast programming available for the first time to the deaf and hard-of-hearing across America. In addition to making media more accessible for the hearing impaired, audiovisual media with intralingual subtitles (captions) has been used for foreign language learning, such as the case with immigrants who turn on closed captions when watching television to better understand or confirm comprehension of the target language media (Caimi, 2006; Díaz Cintas & Remael, 2007; Dollerup, 1974; Koolstra & Beentjes, 1999; Neuman & Koskinen, 1990).

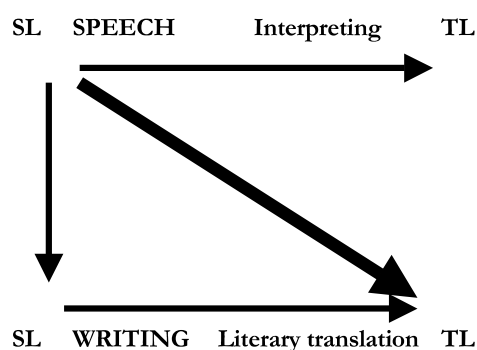
In contrast with intralingual subtitles, or captions, interlingual subtitles are those which involve “the translation from a source [language] to a target language” (Díaz Cintas & Remael, 2007, p. 17). This type of subtitling, because of the obvious difference in language,



is what most viewers would recognize and generally refer to as ‘subtitles’. Interestingly, the term ‘diagonal subtitling,’ coined by Henrik Gottlieb (1994, 2001), is used to describe the subtitling process in the production of interlingual subtitles:

Subtitling [...] can be either vertical or diagonal. Being intralingual, vertical subtitling limits itself to taking speech down in writing, whereas diagonal subtitling, being interlingual, ‘jaywalks’ (crosses over) from source language (SL) speech to target language (TL) writing [emphasis mine] (Gottlieb, 2001, p. 17).

This distinction is made based on the mode as well as the source and target languages. In Figure 4, the top arrow illustrates a transfer from source language (SL) speech to target language (TL) speech, which is labeled interpreting. The vertical arrow from top left to bottom left represents a transfer from source language speech to source language writing. The result of this transfer is captions or intralingual subtitling. A transfer from source language writing to target language writing is deemed translation, as indicated by the bottom arrow. Lastly, the transfer from source language speech (audiovisual material, for example) to target language writing (shown by the diagonal arrow from top left to bottom right) represents the “jaywalk” that Gottlieb refers to as diagonal subtitling. Figure 4 provides a visual aid to understanding the “jaywalk” that takes place from SL speech to TL writing.



*Figure 4: Diagonal Translation - Interlingual Subtitling  
(Gottlieb, 2001, p. 17)*

As previously discussed, interlingual subtitles are an excellent resource in foreign language learning. Not only do these types of subtitles provide a linguistic benefit, but also the use of subtitled foreign media allows learners to experience other important aspects of the target language user community. Díaz Cintas and Remael (2007) highlight that “watching and listening to films and programmes subtitled from other languages helps us not only to develop and expand our linguistic skills, but also to contextualize the language and culture of other countries” (p. 15). The integration of this 3-channel input provides a contextually rich opportunity for language learners to encounter an authentic audiovisual product originally designed for native speaker consumption.

Because of the unique nature of the media text, subtitling within the context of audiovisual translation requires additional considerations as a process unique to that employed in other types of translation. As a professional practice, interlingual subtitling tends to follow a process that, according to the *Routledge Encyclopedia of Translation Studies* (2009), begins with the assumption that the subtitler has been provided with the audiovisual program as well as a dialogue list, “an enhanced post-production script containing a transcription of the dialogue, a description of relevant visual information, and sometimes

notes for the translator” (Díaz Cintas, 2001) as paraphrased and cited in (Pérez-González, Luis, 2009, p. 15). In the case of either an incomplete, inaccurate, or absent a dialogue list, a transcription of the dialogue must be made from the audio track of the media to be subtitled. Next, the process of determining the in and out times for the subtitles to appear and disappear, respectively, must be carried out. This process is known as spotting. The last step in the process is when the spotted dialogue list is translated to the target language. Díaz Cintas and Remael (2007) note that “watching the film or programme in its entirety before proceeding to translate is highly advisable”. As with all translation, post-editing and reviewing of the translation is carried out and quality control measures are implemented. It is also important to note that different individuals may intervene at different times throughout the process, depending on each case. For example, an in-house technician may create the dialogue list that is provided to the translator, or the translator may create the dialogue list before beginning the spotting process. Other unique circumstances, such as access to the original media text, distribution to multiple translators, and time and technological constraints can all significantly impact the subtitling process.

As previously noted, Talaván Zanón has become one of the most prominent researchers with respect to the use of audiovisual translation and language learning. In her 2013 publication entitled “*La subtitulación en le aprendizaje de lenguas extrnjeras*” [Subtitling in Foreign Language Learning] (translation mine), the author provides extensive information on the use of subtitles and subtitling as a learner task. In addition to the theoretical foundations provided, a model designed for language teachers to incorporate the subtitling task aimed at increasing listening comprehension skills is presented. This model serves as the didactic framework for the present study, however, because the model does not include details on the specific subtitling process, a model of a subtitling process to be

employed in this study, based on general translation and audiovisual translation theory, must be explored. This process will be incorporated into Talaván Zanón's (2013) didactic model.

Generally speaking, the aforementioned process can be applied to most cases of professional subtitling. However, in the case of subtitling as a task for language learning, a different process has been proposed. While similar to the professional subtitling process described, Neves (2004) outlines a process for subtitling by language learners:

- Step 1: Media text analysis
- Step 2: Script analysis
- Step 3: Translation/Editing
- Step 4: Spotting/Cueing (Neves, 2004, pp. 131–7)

The first step in any translation is for the translator to carry out a complete analysis of the text to be translated. According to Nord (2005),

“translation-oriented text analysis should not only ensure full comprehension and correct interpretation of the text or explain its linguistic and textual structures and their relationship with the system and norms of the source language (SL) [but] it should also provide a reliable foundation for each and every decision which the translator has to make in a particular translation process” (Nord, 2005, p. 1).

Given the nature of the audiovisual media, in that the source language text can be obtained through the audiovisual channel (the media itself) as well as through the written channel (a dialogue list, script, or similar), the first step in the proposed subtitling process for language learners is a media text analysis followed by a script analysis. These two steps in the subtitling process combine to form the generic first step in all translation – the

comprehensive text analysis. It is important to note here that in Neves' (2004) proposed process, the Script analysis may provide an implicit opportunity for improved language learning. When an inadequate dialogue list or script is provided, or when the transcription has to be done due to the absence of the script, Neves (2004) notes that "inadequate scripts are excellent tools for translator training or even language learning in general", that "incomplete or incorrect scripts make wonderful gap-filling exercises [and that] the transcription of film dialogue [...] is a wholesome listening comprehension task" (Neves, 2004, p. 133). This is the specific step that is being investigated in the present study and is the basis for the independent variable in the experiment.

The third step in the process being proposed is the translation and editing step. Interestingly, in comparison with the previously mentioned generic professional subtitling process, this process proposes that the translation and editing step come before the spotting step. The translation and editing step involves incorporating the various constraints and conventions that must be dealt with, including general style, lines and line breaks, time on screen, punctuation, symbols, colors, numbers, and a plethora of others. The participants in the study carried out by Talaván Zanón (2013) were not asked to respect specific subtitling conventions, as would normally be the case. Therefore, for the purposes of leveraging the language learning aspect of subtitling in this case, these constraints are not of paramount importance, and what would be considered unprofessional in the case of a professional subtitling job is overlooked in order to avoid placing more importance on form when in reality the first two steps are the focal point for the contextualized input that may lead to improved listening comprehension.

Lastly, step 4 in this process is the spotting and cueing process. Recognizing that different practices are carried out by different individuals, Neves (2004) states that "what appears to be important is that students be trained to work within the time constraints that

spotting imposes [... which] leads to further perfecting of editing techniques” (Neves, 2004, p. 137). Contrary to the definition provided by Díaz Cintas and Remael (2007), which defines spotting as “the process of dividing the original dialogue into units to be subtitled” (p. 252), in this case, the spotting and cueing occurs after the translation and as part of the editing process, meaning that the division is of the translation of the original dialogue, as opposed to the division of the original dialogue itself. The subtitling process presented by Neves (2004) is the model basis used as the for the subtitling process carried out by the experimental group in this study which will be further detailed in the Instrumentation section in Chapter 3.

### **III. Chapter 3: Methodology**

#### **A. Introduction**

The present chapter describes in detail the way the study has been designed and carried out. The purpose of this study was to evaluate subtitling as a learner task to improve listening comprehension via military radio communication within the English for Specific Purposes context of English for the military when delivered via an online learning management system. The following sections will provide clear details about the participants and sampling, the design and experimental manipulation, experimental procedures, instruments, reliability and validity of the data, and the limitations and delimitations of the study.

In this chapter, it is of paramount importance that this research study be viewed within the context of the type of research being carried out. An emerging form of research, especially in language learning, this study is an example of action research, and this should be kept in mind with regard to this chapter, especially as it relates to the research design. According to Nunan (1992), action research in language learning “is initiated by the practitioner and is derived from a real problem in the classroom which needs to be confronted” (1992, p. 18). Action research, specifically in education, is characterized by research that is conceived, planned and conducted by those involved in the field themselves, as opposed to individuals from outside the organization or field. It is considered to be “a straightforward cycle of identifying a problem, planning an intervention, implementing the intervention, [and] evaluating the outcome” (L. Cohen, Manion, & Morrison, 2007, p. 312) and is of particular use in education and more specifically in language learning. In practice, action research allows for a language teacher to carry out research *themselves, in their own environment* based on a desired improvement or a known problem and involves stating the improvement or problem, conducting an initial inquiry, formulating a hypothesis, testing

different ways to ‘treat’ the problem, analyzing the results, sharing the findings, and implementing the change (Nunan, 1992).

### **B. Research Questions and Purpose**

Taking into account the research questions and the research purpose is of utmost importance when designing and defining the research procedures or methods. In order to keep the forthcoming chapter in perspective, these aspects of the overall study are presented once again here.

RQ1	To what extent do scores on military radio-based listening comprehension assessments increase as a result of the subtitling task for learners of English for the military?
RQ2	To what extent do scores on military radio-based listening comprehension assessments increase as a result of viewing subtitled audiovisual material by learners of English for the military?
RQ3	To what extent does the use of an online learning management system support subtitling as a task for learners of English for the military?

*Table 4: Research Questions*



H1	The Experimental Group's scores on military radio-based listening comprehension assessments will be higher than those of the Control Group as a result of the subtitling task.
H2	The Control Group's scores on military radio-based listening comprehension assessments may increase as a result of viewing subtitled audiovisual material.
H3	The Experimental Group will inform that the learning management system supports subtitling as a task for learners of English for the military.

*Table 5: Hypotheses*

The purpose of this study is to test the effect of subtitling as a learner task on listening comprehension by comparing 1) subtitling as a learner task and 2) viewing of subtitled audiovisual material to listening comprehension via military radio for study participants, native Spanish-speaking English language learners from the Spanish military, in an online learning environment.

### **C. Sampling**

While the population under study could conceivably be considered as large as the entirety of the military members of all NATO members, for this study, the population is defined as professional, career members of the Spanish Navy enrolled in intermediate level English courses taught through the Spanish Navy Language School, or the *Escuela Militar de Idiomas (EMID)*, at Naval Station Rota, Cádiz, Spain and members of the Spanish Army

enrolled in the intermediate level English course at the Spanish Military Engineer's academy in Hoyo de Manzanares, Madrid, Spain. The sample for this study consisted of 46 students and convenience-based selection was used to identify participants from within the specified population that met specific criteria. Although the means for sampling would ideally have been wholly random in order to have the most representative sample from the population, selection for this study was convenience-based, given the availability of the course and the instructor's willingness to allow them to participate in the research study. In order to be considered for the study, potential participants had to meet the following criteria for selection:

- Be a member of the military of one of the NATO member or Partnership for Peace (PfP) countries, and
- Possess an intermediate English level as demonstrated with a minimum 2-2-2 Standardized Language Profile (SLP) for listening, speaking, and reading in accordance with NATO Standardization Agreement (STANAG) 6001, valid within the past three years.

#### **D. Rationale for Selection Criteria**

The rationale for selecting the criteria is based on the attendance pre-requisites of the "Tactical Communications English" workshop at the Marshall Center (Embree, 2012). Because the workshop was designed for operational MAT/PAT team members preparing to deploy to the ISAF advisory mission, criterion 1 is inherent. Participants cannot be members of a MAT/PAT without meeting criterion 1, and therefore must meet it in order to participate in the workshop and this study.

With respect to criterion 2, the English requirements are based on NATO STANAG 6001, which is the official document whose aim is "to provide NATO Forces with a table

describing language proficiency levels” (NATO, 2010, p. 1). While the agreement further defines language proficiency as “an individual’s unrehearsed, general language communication ability,” NATO has not wholly agreed upon this definition. NATO STANAG 6001 establishes a standardized reporting method for the 4 macro language skills, called the SLP or Standard Language Profile, and defines this profile as a 4-letter code: listening, speaking, reading, writing, or LSRW. The proficiency levels, from 0 to 5, are used to report the SLP as follows: 0 – No proficiency, 1 – Survival, 2 – Functional, 3 – Professional, 4 – Expert, 5 – Highly articulate native (NATO, 2010, p. 2). An SLP is reported according to the LSRW format and the 0 to 5 proficiency levels, such as 2-3-2-3, for example. The agreement describes the various proficiency levels in detail for each macro skill, from 0 to 5, focusing on what the individual is able to do at each level within each skill. A 2005 report describes this aspect as “a focus on ability to communicate a message effectively in defined situations rather than mastery of particular language exponents (“proficiency” testing as opposed to “achievement” testing)” (MODLEB, 2005, p. 4). Furthermore, there is a series of additional indicators which “may be added to a base level for training, evaluation, recording or reporting purposes, to indicate a level of proficiency that substantially exceeds a 0 through 4 base skill level, but does not fully or consistently meet all of the criteria for the next higher base level” (NATO, 2010, p. 2).

Many studies have been carried out attempting to map the STANAG level descriptors to the various English exams as well as to the CEFR descriptors. An extensive analysis carried out in 2005 by the UK Ministry of Defence and the University of Westminster Language Examinations Board (MODLEB) provides an in-depth comparison of the descriptors and the levels of outcomes used by each framework. However, it is important to note that a direct comparison is extremely difficult, considering the “philosophical differences between the NATO STANAG 6001 descriptors and the Common European

Framework” and goes on to reiterate that “Any comparison between the two frameworks must therefore be very approximate and should be treated with caution” (MODLEB, 2005, p. 2). Because the requirement for the “Tactical Communications English” workshop is a 2-2-2 SLP for Listening, Speaking and Reading, this review will focus on the comparisons at this level. This difficulty in comparison notwithstanding, the overall findings of the report claim that the STANAG 6001 SLP Level 2-2-2 is a consistent CEFR B1 level, stating “in general this level appears to correspond reasonably well with CEF B1” (MODLEB, 2005, p. 3). Table 6 shows the summary results of the comparison made by the MODLEB report.

	<i>Listening CEF</i>	<i>Speaking CEF</i>	<i>Reading CEF</i>	<i>Writing CEF</i>	<i>Overall CEF</i>
<i>STANAG 0</i>	<i>Below A1</i>	<i>Below A1</i>	<i>Below A1</i>	<i>Below A1</i>	<i>Below A1</i>
<i>STANAG 1</i>	<i>A2</i>	<i>A2</i>	<i>A2</i>	<i>A2</i>	<i>A2</i>
<i>STANAG 2</i>	<i>B1</i>	<i>B1</i>	<i>B1</i>	<i>B1</i>	<i>B1</i>
<i>STANAG 3</i>	<i>B2.2/C1</i>	<i>B2.2/C1</i>	<i>B2.2/C1</i>	<i>B2.2/C1?</i>	<i>B2.2/C1</i>
<i>STANAG 4</i>	<i>C1/C2</i>	<i>C1/C2</i>	<i>C2</i>	<i>C1/C2</i>	<i>C1/C2</i>
<i>STANAG 5</i>	<i>C2 or above</i>	<i>Above C2</i>	<i>Above C2</i>	<i>Above C2</i>	<i>Above C2</i>

*Table 6. Summary of Mapping STANAG 6001 and CEF.  
(MODLEB, 2005, p. 2)*

The MODLEB report is an extensive, reliable analysis and includes a detailed description of the characteristics of the STANAG descriptors as well as the CEFR descriptors. Furthermore, it highlights a distinct difference between the CEFR and the U.S. Interagency Language Roundtable (ILR) levels, the American Council on the Teaching of Foreign Languages proficiency levels, and the STANAG.

While the STANAG “clearly derives from the FSI<sup>1</sup> (...) from which the American Council for the Teaching of Foreign Languages (ACTFL) scale in common use in the USA is also derived” the CEFR differs in that it “has been significantly influenced by the needs of teachers as well as those of testers” (MODLEB, 2005, p. 7).

Recognizing that the MODLEB report is the most robust of its kind in comparing frameworks, there are two separate documents relating the STANAG levels to some of the most common English language exams, namely the Test of English for International Communication (TOEIC ®) and another simple chart comparing the STANAG and the Cambridge ESOL exams and the International English Language Testing System (IELTS). Although no information is provided about the analysis conducted or the methodology used to create the comparison chart, a simple, one-page document provided by Macmillan Publishers maps the STANAG 2222 to the CEFR B1, Threshold, and B1+, Threshold+. This comparison chart also links this level to Cambridge ESOL Preliminary English Test (PET) and the IELTS level 4, as shown in Table 7.

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<sup>1</sup> Although the report refers to the FSI as the “U.S. Defence Department Foreign Service Interview” (MODLEB 4), this is a misnomer as FSI refers to the Foreign Service Institute, which “is the Federal Government's primary training institution for officers and support personnel of the U.S. foreign affairs community” (U.S. Department of State 1). Thus, it is in the opinion of the researcher that the authors of the report have confused the FSI with the ILR, or Interagency Language Roundtable, which is the set of language proficiency guidelines used by the FSI. Furthermore, they have incorrectly assigned the FSI to the Department of Defense, when in reality it belongs to the U.S. Department of State. As the name suggests, the ILR is used for various agencies of the U.S. Federal service.

<i>Scales</i>					<i>Tests</i>	
<b>STANAG</b> <b>6001</b> <i>Standardized Agreement 6001 (1976)</i>  <b>NATO: &amp; BILC:</b>	<b>CEF</b> <i>Common European Framework</i>  <b>COE: Council of Europe</b>		<b>ALTE Scale</b>  <b>ALTE: Association of Language Testers in Europe</b>		<b>Cambridge ESOL</b>  <b>Cambridge ESOL Examinations.</b> <i>(formerly UCLES)</i>	<b>IELTS</b>  <b>The British Council, IDP &amp; Cambridge ESOL</b>
<b>2222</b> <i>Limited Working</i>	<b>B1+</b> <i>Threshold+</i>	<i>Independent User</i>	<b>2</b> <i>Threshold User</i>	<i>Lower Intermediate</i>	<b>PET</b>	<b>4</b>
	<b>B1</b> <i>Threshold</i>					

*Table 7. Macmillan Publishers Comparison Chart, extract.*

*(Mellor-Clark, King, Nicola, Baker de Altamirano, Yvonne, McIlwraith, Hamish, & Walden, Randy, 2012, p. 1)*

While this comparison chart is not necessarily valid in and of itself, as it does not contain any background information on the process or criterion used for comparison, it does provide the same finding as the MODLEB report, which linked the STANAG Level 2 to a CEFR level B1. The studies differ in that while the Macmillan chart goes as far as linking the STANAG Level 2 with the CEFR B1 and B1+, the MODLEB report states, “it is not possible to establish whether the correspondence is to B1.1 (lower) or B1.2 (higher)” (MODLEB, 2005, p. 3). Therefore, for the purposes of this study, it has been linked to a non-specific B1 level.

Thus far, evidence has been provided showing that the STANAG Level 2 has been consistently linked to the CEFR B1 as well as to the Cambridge PET and IELTS level 4. Barron and Tannenbaum (2010) of the Educational Testing Service (ETS) which develops and administers the TOEIC ®, conducted another significant report linking the STANAG levels to that exam. The extensive research conducted for this report provides a table of “cut

scores,” or minimum scores, on each of the four sections of the TOEIC ® and links them to the four macro skills of the STANAG 6001 levels. Table 8 shows that the STANAG Level 2 is most closely equivalent to a scaled 400 score on listening, a scaled 350 on reading, and a scaled 190 on speaking. Buck (2001) makes an important connection between the CEFR level and the TOEIC ® recognizing that “although the test covers a wider ability range, the target group is probably best described as lower intermediate level, or more precisely the Council of Europe Common European Framework Level B1” (2001, p. 210).

In accordance with the Marshall Center’s pre-requisite for attendance and enrollment in the “Tactical Communications English,” which is a 2-2-2 SLP for Listening, Speaking and Reading, it can be concluded that the framework equivalent is a CEFR B1 while the examination equivalent on the Cambridge ESOL is the PET and the IELTS is a score of 4. Table 8 provides a cumulative comparison, based on available studies and mapping, that links the STANAG 2-2-2 levels to the CEFR framework as well as the Cambridge ESOL, the IELTS, and the TOEIC ® exams. For the purposes of this study, the STANAG 6001 2-2-2 level shall be compared in accordance with Table 8 allowing comparisons to be made between the levels and exams, specifically with respect to the instruments used for homogeneity testing of the groups.

Macro Skill	Frameworks		Exams		
	STANAG 6001	CEFR	Cambridge ESOL	IELTS	TOEIC ®
<b>Listening</b>	<b>2</b>	<b>B1</b>	<b>PET</b>	<b>4</b>	<b>400</b>
<b>Speaking</b>	<b>2</b>	<b>B1</b>	<b>PET</b>	<b>4</b>	<b>190</b>
<b>Reading</b>	<b>2</b>	<b>B1</b>	<b>PET</b>	<b>4</b>	<b>350</b>

*Table 8. Cumulative Comparison of STANAG 6001 Levels with Frameworks and Exams.*

### **E. Design and Experimental Manipulation**

As was mentioned in Chapter 1, knowledge claims were considered and subsequently defined for the purposes of this study as postpositivist. Next, these knowledge claims led to the application of the quantitative research approach, and an experimental research design was chosen. Robson sums up the experimental research strategy as follows:

- The assignment of participants to different conditions;
- Manipulation of one or more variables (called ‘independent variables’, IVs) by the experimenter;
- The measurement of the effects of this manipulation on one or more other variables (called ‘dependent variables’, DVs); and
- The control of all other variables. (Robson, 2002, p. 94).

However, simply choosing an experimental design is not sufficient and must be further specified. As Creswell points out, “the types available in experiments are pre-experimental designs, true experiments, quasi-experiments, and single-subject experiments” (Creswell, 2003, p. 167). Based on the research purpose and questions, an “‘analytical-nomological’ paradigm [...] in which the data are collected through an experiment and yields quantitative data which are subjected to statistical analysis” (Nunan, 1992, p. 4), also known as a true experiment, will be used to test the proposed hypotheses. Some research experiments in language learning have historically utilized a simple, one-group study. However, in terms of study reliability and validity, these single-treatment and single-observation studies, while they do provide anecdotal information, are not generally accepted in today’s research community. Because conducting experiments in the natural environment has its own unique difficulties, it is now more common to use a simple, two-group experiment. However, because this study is real world research, Robson (2002) points out



that “the main hurdle in carrying out true experiments outside the laboratory is in achieving the principle of random allocation, and once this is achieved, there may be merit to considering a somewhat more complex design” (2002, p. 104). As was detailed in the previous section related to the participants and sampling, although the sampling was convenience-based, due to the online nature of the study, there were no pre-determined class organizations, time related issues, such as class meeting times, or physical considerations, such as classroom space, thus random allocation was possible and achieved.

This study utilizes a two-group simple design: the *pre-test post-test randomized controlled trial*. Participants were randomly allocated to either the experimental or the control group based on matched pairs (which will be further discussed in the Experimental Procedures section) from the blocking factor - the TOEIC ® Sample Test. There is one experimental group, which has been given the experimental treatment, as well as one control group, which did not receive the experimental treatment, but rather a parallel activity similar to the independent variable. After being randomly allocated to their groups, both were given pre and post treatment assessments for comparison. Figure 5 illustrates the design, whereas R represents random assignment, O represents a measurement, such as a pre or a post treatment assessment, and X represents a treatment or experimental variable. In this case, participants have been randomly assigned to each group following the first measurement, the TOEIC ®. All participants were given the same pre and the same post assessments. The Experimental Group (EG) was exposed to the experimental variable,  $X_1$ , while the Control Group (CG) was not exposed to any experimental variable during the experiment, but rather conducted equivalent parallel activities utilizing the same audiovisual materials as the EG.

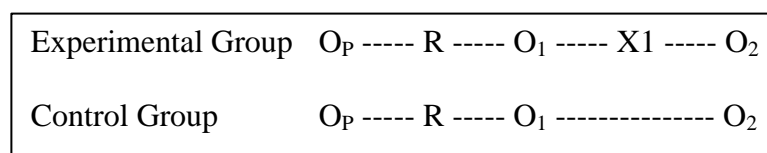


Figure 5: Experimental Design

## F. Experimental Procedures

This experiment was designed specifically to be carried out online utilizing an online learning management system called Canvas. Canvas is a dynamic product made by Instructure, designed to revolutionize online learning by providing a modern interface and easy-to-use tools to enhance the online learning experience for both instructor and learner. Canvas is an open-source, dynamic product that allows for seamless integration with other online environments, including Google products, and social media, and is commonly used for MOOCs (massive open online courses). The idea for carrying out this experiment comes from the recommendation proposed by Talaván Zanón (2013):

*Gracias a las redes avanzadas de educación virtual, los alumnos podrían trabajar en línea con actividades individuales que les guiaran a través de los visionados, la posterior subtítulo del clip correspondiente y las correspondientes actividades de post-visionado. Existen muchas herramientas y plataformas informáticas que se pueden utilizar para este tipo de tareas en los campus virtuales de los centros de enseñanza a distancia que, además, pueden ayudar a los alumnos a desarrollar destrezas de aprendizaje autónomo dentro de un proceso rico y complejo en el que se cuenta con el apoyo de un tutor (virtual) que pueda resolver posibles problemas y proporcionar la correspondiente retroalimentación con respecto al ritmo de*

*progreso y nivel de aprovechamiento de la actividad, sobre todo en las tareas que no puedan contar con respuesta automatica* (Talaván Zanón, 2013, p. 387).

Thus, in order to begin the experiment, after providing their personal email address, participants were invited to join the online learning management platform, Canvas, at <https://canvas.instructure.com/login/canvas> in order to create usernames and passwords for the system. The email invitation was generated from the participant roster that was input by the researcher, thus linking the invitation automatically to the course in which they were to enroll. To demonstrate the learning management system's ease of use, a screenshot of the email invitation for account creation and course enrollment can be seen in Figure 6.

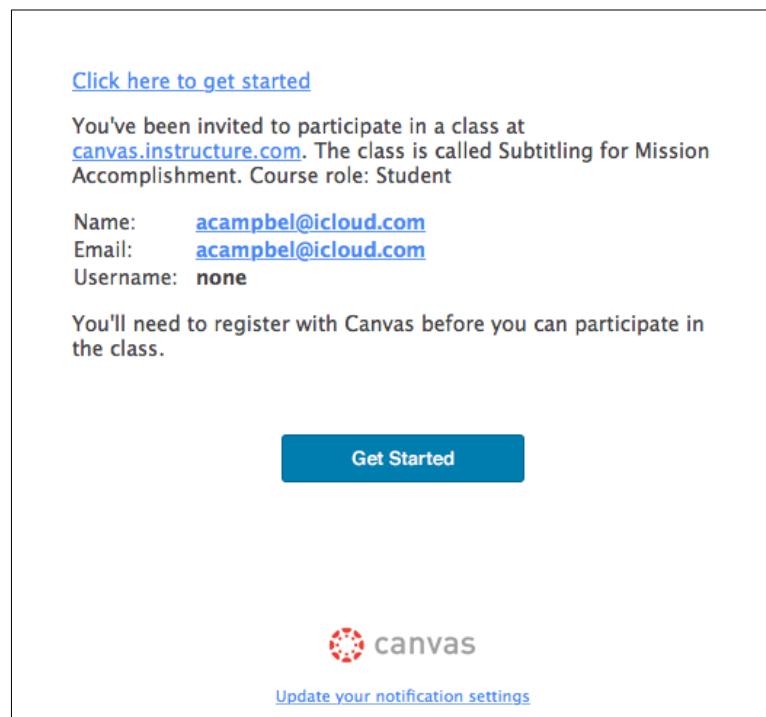
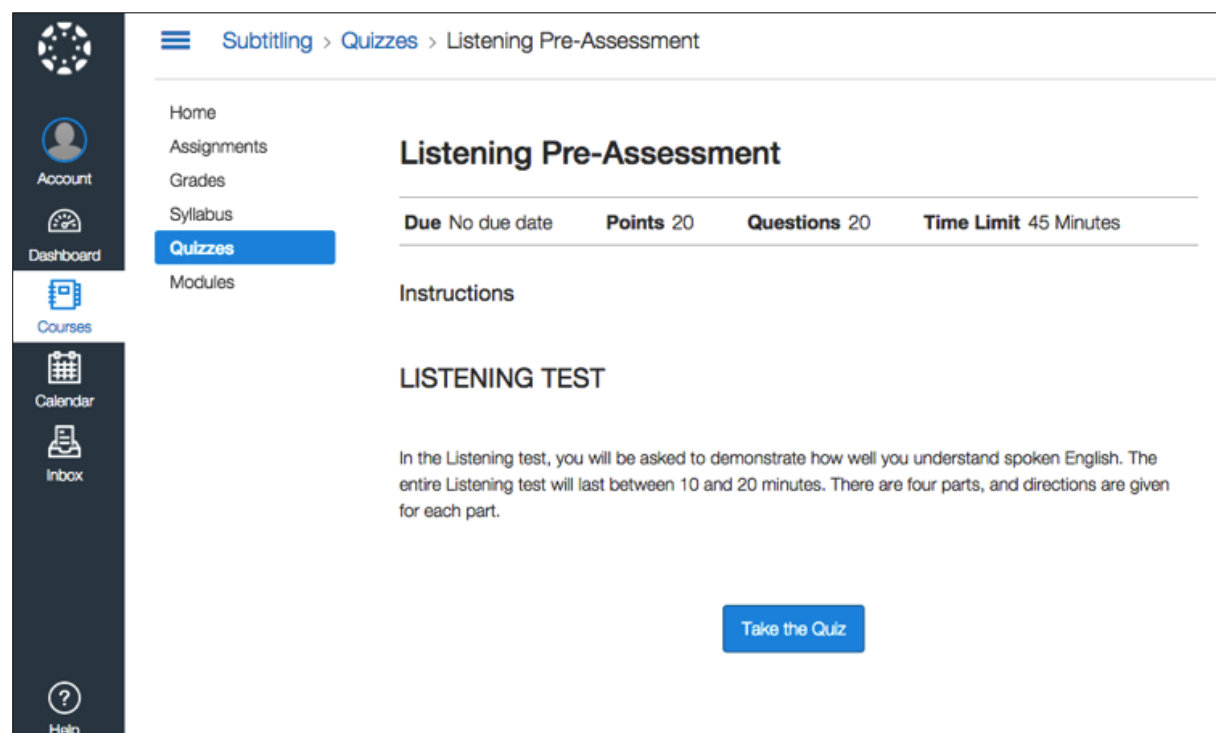


Figure 6: Canvas Account Creation Page

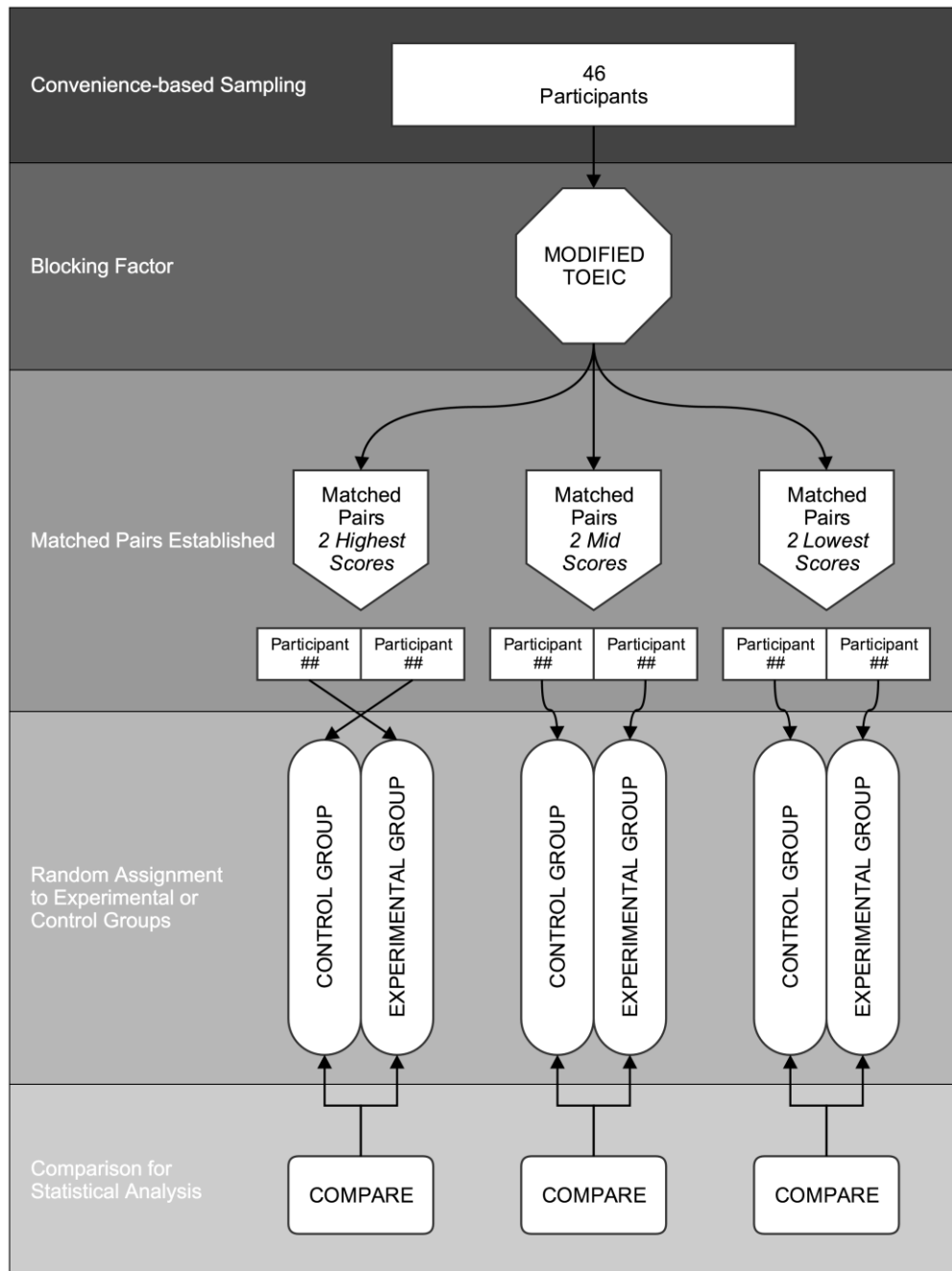
Next, each participant was then automatically enrolled in the TOEIC ® listening pre-assessment course and then they were subsequently directed to complete the TOEIC ® Sample Test. This observation instrument is further described in detail in the instruments section, while the main page of the listening comprehension pre-test is provided in Figure 7.



*Figure 7: TOEIC ® Landing Page in Canvas*

Participants were blocked utilizing the scores from the TOEIC ® listening comprehension test and were subsequently assigned to the two groups. Robson (2002) notes that “to do any form of true experimental design you need to be able to carry out random assignment to the different treatments” (2002, p. 106). In order to conduct this random assignment to the control and experimental groups, participants were assigned a random, internal identification number based on their Canvas account, and this number was known only to the researcher. Then, in what is referred to as a ‘matched pairs design’, which

involves “establishing pairs of participants with similar scores on a variable known to be related to the dependent variable (DV) [with] random allocation of members of pairs to different experimental groups or to an experimental and control group” (Robson, 2002, p. 105), participants were divided into matched pairs. Using a matched design is advised in this case, as the ‘matching variable’ itself (the TOEIC ® Sample Test) “correlates highly with the dependent variable” (2002, p. 107) and the process of obtaining the scores for the matching variable “are unlikely to influence the treatment effects” (Robson, 2002, p. 107). That is, not only does the TOEIC ® score correlate directly with the dependent variable under study in this research project, but it was also very easy to utilize the online learning management system to administer the TOEIC ® Sample Test, with prior approval from the Educational Testing Service. The authorization letter and license are available in the appendices. Therefore, scores from the TOEIC ® were put into order from highest score to lowest score, and the corresponding internal identification number of the participant was noted. From this rank-ordered list of scores, 23 pairs were created – the first and second formed a pair, the third and fourth formed a pair, and so on until 23 pairs were formed from the research study participants. From each of the pairs, one identification number was randomly assigned to the control group, and the other was assigned to the experimental group. This process ensures internal validity of the experimental and control groups in order to have two groups that are as similar as possible, in this case, against an independent variable of general English language skills as demonstrated on the TOEIC ®. The assignment of the participants to the groups and the blocking on pre-test TOEIC ® scores is detailed in Figure 8.



*Figure 8: Blocking on the TOEIC® to form matched pairs*

Next, participants were divided into two different sections corresponding to their group of assignment utilizing the online course management software. This allowed for participants to be grouped into sections from the previous random allocation in either the Experimental or Control Group without their knowledge. The online course then proceeded

depending on the corresponding section to the group of assignment and modules became available for the participants to begin their work. Modules 1 and 5 were same for all participants. Module 1 consisted of the administration of the first pre-treatment assessment, a NATO-released video from the gun camera from the 82<sup>nd</sup> Combat Aviation Brigade attack helicopters and the accompanying radio traffic between the pilots and their dispatch base. This assessment is further described in detail in the instruments section. All groups were then provided with an online course, which consisted of 3 additional modules each, wherein the subtitling treatment was applied to the Experimental Group and a parallel activity was applied to the Control Group. The modules were asynchronous based on constructivism as described in online learning theory, and self-paced. Participants were given a window of 6 weeks to complete the modules, from 1 October 2015 to 15 November 2015. Upon completion of the modules, the military radio listening comprehension post treatment assessment was administered as Module 5. This post-test provided the data used to analyze the subtitling task intervention proposed in Hypothesis 1 and Hypothesis 2. Upon completion of the entirety of the course content, all participants were given the end-of-course survey, which provided an opportunity for participants to express their feelings regarding the use of the online learning management system. Depending upon their group of assignment, participants were also asked questions regarding the use of audiovisual material and subtitling as a task. The information obtained from this survey provided the data to be used in evaluating Hypothesis 3.

## **G. Instrumentation**

### **1. The Dependent Variable**

As discussed at length in Chapter 2, the dependent variable under study in this case is listening comprehension within the context of listening via military radio. The dependent variable is inseparably linked to the Research Questions and the corresponding Hypotheses 1

and 2, given that the principal skill under study is listening comprehension. Thus, in order to evaluate said skill, multiple instruments were employed. First, in accordance with the research design, the TOEIC ® Sample Test was used as the variable for blocking factor based on the dependent variable. Second, existing radio-based listening comprehension assessments were utilized for measuring the dependent variable both prior to and after both the experimental treatment was administered and the parallel activity carried out with the Experimental and Control Groups, respectively.

**a. TOEIC ®**

Various instruments were utilized to carry out the study, linked to research purpose and research questions. According to the Marshall Center's Tactical Communications English workshop, participants must meet the following pre-requisite:

A minimum of an intermediate level of English language proficiency (approximately equivalent to: NATO STANAG 6001 SLP Level 2 in listening, speaking, and reading; or an American Language Course Placement Test (ALCPT) / English Comprehension Level (ECL) test score of 70) (Embree, 2012, p. 1).

The ideal instrument for homogenizing the groups and conducting the assignment to the treatment groups is either the American Language Course Placement Test (ALCPT) or the Defense Language Institute's English Comprehension Level (DLIECL) test, both of which belong to the Defense Language Institute English Language Center (DLIELC) located at Lackland Air Force Base in San Antonio, Texas, USA. The ALCPT "assesses English proficiency through items that evaluate comprehension of grammar and vocabulary through the modes of listening, and reading" (Defense Language Institute English Language Center, 2015, p. 1) while the ECL test is a "is the primary instrument used for measuring the English



language reading and listening proficiency of IMSs [(international military students)] scheduled to attend IMET [(International Military Education and Training)] or FMS [(foreign military sales)] funded training and of international participants in certain U.S.-sponsored exercises” (“DLIELC.edu -ECL Testing,” n.d.). However, according to personal e-mail communication with the DLIELC requesting permission to use the ALCPT for research purposes, the Language Testing Specialist and Test Monitor, Dr. Edelmira Nickels, replied, “[p]er Joint Base San Antonio, Lackland's JAG, the ALCPT is DLIELC's property, and DLIELC approves the use and sale of the test” ... [s]ince the ALCPT is a controlled test, it cannot be used for practice or research purposes. Unfortunately, there is no military test available through DLIELC that would serve your purposes” (Nickels, 2013). The ALCPT handbook further goes on to specify the approved uses of the test as follows:

“ALCPTs are intended to be used for the following purposes only: to place students in an American Language Course (ALC) program; to evaluate student progress at the end of an ALC level to screen candidates for readiness to take the English Comprehension Level (ECL) test<sup>[...]</sup> to evaluate the English language abilities of local personnel working for, or being considered for positions on overseas U.S. military installations as required by U.S. military service regulations. ALCPTs are not used for ECL practice, promotion or bonus systems, etc. ALCPTs should never be placed in databases, on the internet or otherwise be made available for students to study. Because the ALCPT is a U. S. government language test created for authorized purposes only, its sale must be approved by the DLIELC English Evaluation Flight (Testing)” (Defense Language Institute English Language Center, 2015, p. 1).

Therefore, because neither the ALCPT nor the ELC test was an available option, in order to homogenize the groups and assign the participants to the groups, the practice test from the TOEIC ® Official Test-Preparation Guide (2000) was utilized. Deficiencies in the TOEIC ® as a test of the listening construct were discussed previously, however, where the TOEIC ® is more a “test of general grammatical competence through the oral mode” it remains “cheap and reliable, and measures this narrow construct efficiently and well” (Buck, 2001, p. 216). Thus, a sample of the TOEIC ® Listening and Reading test, generally a 2-hour multiple-choice test consisting of 200 questions, was utilized as the test for homogenization and group assignment. The license provided by ETS for use of the TOEIC ® is of particular importance, increasing the overall validity and reliability of the entire experiment. The official sample test consists of a 44 item listening and reading test that was administered through the online course management system, Canvas.

#### **b. Radio Listening Comprehension Instrument**

While the TOEIC ®, an existing instrument with both existing reliability and validity (Educational Testing Service, 2012) was used to block and assign participants to the respective experimental groups, in order to complete the experimental procedure, pre-treatment and post-treatment observation instruments were utilized. Given the research purpose and research questions, existing military radio-based listening comprehension assessments were the ideal choice for use in the experiment, as they, like the TOEIC ®, were already validated and their reliability had already been established. Noting the specific nature of such an assessment, existing instruments from the Marshall Center “Tactical Communications English” course, designed to measure listening comprehension via military radio, were used for this purpose. In keeping with the communicative testing concept that “language use takes place in a context, and for a communicative purpose, and tests need to

take account of that” (Buck, 2001, p. 83), these instruments are made up of authentic texts, taken from official ISAF-released video and audio footage (Buck, 2001, p. 83).

The gap-filling tests employed for measuring the dependent variable are a type of integrative test based on the cloze reading test in which words are removed from a selected text and test takers are asked to fill in the gaps with a word that they believe is the best fit. These reading tests are used for both comprehension and to determine a text’s readability. While the instruments for this study were those pre-existing assessments already in use at the Tactical Communications English Workshop, an evaluation thereof for the purposes of the study and within the contexts of the conceptual framework is due. According to Buck (2001), “there is considerable evidence that the standard reading-cloze procedure can be used to make good [listening] tests, and there is every reason to think that the listening cloze would work well. Test-takers would clearly have to understand a short piece of spoken language [...]” (2001, p. 69). While this evaluation is a positive one, it is important to remember that in a pure listening cloze, the entire assessment would be carried out utilizing the listening domain. That means that the blanks in the text would be represented as either beeps or silences in the audio text, and the test taker would simply write down their response to each blank, perhaps in corresponding numbered blanks on a response sheet. This test technique usually requires a pause or a small window of time after the beep or silence for test takers to respond. Previously, as noted by Buck (2001), one of the main difficulties in this type of test would be the technological requirements for creating the text. However, with advances in technology, digital audio software has made this a non-issue, and creating this type of text is a simple task, even for the most basic user.

In contrast with a traditional cloze listening test, this study utilizes a gap-filling test, in large part due to the fact that while an audio text is provided to the test taker, they are also given a transcript of the text with the appropriate blanks to fill in as the text is delivered. In

this case, there are no special pauses after the blanks, and the text is delivered in real time, in keeping with the previously defined listening comprehension construct. While this method may result in a watering down of the test back to a reading cloze exercise, Henning *et al.* (1983) support the removing of certain words in order to account for this potential drawback: “content words purposely deleted in such a way that it would be highly unlikely that the students could supply the missing words from context alone without attending to the aural stimulus” (1983, p. 289). This is referred to as a listening recall test, and the authors purport that in their study, these types of tests showed higher “reliability, validity, discriminability, and test width” (1983, p. 292) when compared to a traditional listening comprehension test (Henning et al., 1983).

This information positively reinforces the use of this gap-filling test with respect to the aforementioned details on construct and the results of the study mentioned. Furthermore, the removal of content words, those words with a “high information load” (Buck, 2001, p. 70), provide an additional opportunity for vocabulary acquisition. While not a specific domain under investigation in this research, this reinforces the specific need of members of SFATs to be able to utilize technical, mission-related vocabulary and radio procedures within the context of the advising mission in Afghanistan. This is perhaps one of the reasons the Tactical Communications English Workshop has utilized this specific type of test, because in addition to improved radio communications in English, one of the other goals of said workshop is to increase acquisition of specific vocabulary.

While this type of test clearly falls within the category of integrative testing, based on the theory of redundancy and expectancy grammar, these instruments actually incorporate characteristics specific to communicative tests as well. As was mentioned in Chapter 2, communicative tests usually include authentic text, a communicative purpose, and authentic tasks. In the case of these gap-filling tests, the text is taken from videos released into the

public domain by both ISAF and U.S. military public affairs offices. These releases took place via the U.S. Department of Defense's television broadcasting service, known as the Armed Forces Network, or AFN, as well as via the Department's online Defense Video and Imagery Distribution System (DVIDS). DVIDS is "a state-of-the-art, 24/7 operation that provides a timely, accurate and reliable connection between the media around the world and the military serving worldwide" ("DVIDS - About DVIDS," n.d.).

More specifically, the text utilized for the radio listening comprehension gap-filling pre-test was the audio extracted from ISAF-released helicopter gun-camera footage obtained 5 August 2009 in Zabul province located in southern Afghanistan. The footage was taken from an Attack Weapons Team of helicopters belonging to the United States Army's 82<sup>nd</sup> Combat Aviation Brigade from Fort Bragg, North Carolina as part of Task Force Pegasus. The original B-roll consists of 5 minutes and fifty-three seconds of audio, which was used to create a 30-item listening assessment lasting 5 minutes and twenty-nine seconds. In this case, the B-roll is to be understood as video taken without audio, whereas the final audiovisual product is a result of video and audio taken from two different, independent systems with audio overlaid onto the video resulting in the final product. Given this unique combat context, the video and audio recording systems are not integrated. The videos used for this study were all taken from the Lockheed Martin Target Acquisition and Designation Sights (TADS) system, by either the thermographic camera or monochrome daylight television camera on the Boeing AH-64D (AH meaning attack helicopter) Apache Longbow helicopter. While there is no way to be certain which system was used due to high-level security classification, the audio was most likely recorded from secure voice transmissions over either the Single Channel Ground-Air Radio System (SINCGARS), the Ultra High Frequency (UHF) Have Quick II radio system, or the Very High Frequency Amplitude Modulating Frequency Modulating (VHF AM-FM) radio system. The audio includes radio

communication between two pilots regarding the identification, observation, and elimination of 2 insurgents implanting an IED along a route used by the ISAF coalition. The complete transcription of the audio along with the pre-test format is included as Appendix A and Appendix B for reference. After the experimental treatment and parallel activity were carried out, whose details will be provided in the following section on the independent variable, a post-test was given to the participants. The text utilized for the radio listening comprehension post-test consisted of audio taken from similar ISAF-released helicopter gun-camera audio and video footage taken on 5 January 2007 near Tikrit, Iraq. The audio was utilized to create a 19-item assessment lasting 2 minutes and forty-three seconds. The original B-roll consists of Apache helicopter pilots assigned to the United States Army's 3<sup>rd</sup> Infantry Division's Task Force Marne from Fort Stewart, Georgia who are providing close air support to friendly personnel on the ground near a building, which enemy forces are utilizing for cover and concealment while they engage the Apaches. The footage includes incoming small arms and rocket-propelled grenade fire as well as the Apache's deployment of Hellfire missiles, rockets, and 30-millimeter chain-gun fire. The complete transcription of the audio along with the post-test format is included as Appendix C and Appendix D for reference. The high information load words that have been removed for the cloze test for the pre-treatment test can be seen in Table 9 and for the post-treatment test in Table 10.

<b>High Information Load Words - Pre-Test</b>			
road	helicopters	send	see
three	hit	twenty	vehicles
individuals	placing	aircraft	station
midnight	wire	eyes	sneaking
individuals	shoot	checkpoint	case
hole	place	open	gun

*Table 9: High Information Load Words - Pre-Test*

High Information Load Words - Post-Test		
careful	engaged	hit
fire	missile	destroyed
missiles	tracking	house
left	inbound	green
ahead	firing	guns
calling	back	away

*Table 10: High Information Load Words - Post-Test*

## **2. The Independent Variable**

The independent variable in this study is the use of the professional task of creating subtitles by non-translators for language learning purposes. Because of the online nature of this experiment, this section will detail the entirety of the procedures and content used for the experimental treatment applied to the Experimental Group as well as the non-experimental treatment applied to the Control Group. This section will include a detailed account of the contents and progression of the online courses that were designed and applied to each Group.

### **a. Experimental Group**

This subsection will detail the specific instruments that were used and the procedures that were followed in the case of the Experimental Group and the way that the experimental treatment, that is the independent variable, was applied. As specified previously in this chapter, the members of the Experimental Group were randomly assigned to the group based on a matched pair design after taking the TOEIC ®. Once again it is important to note that the participants were not aware of whether or not they were in the experimental or the control group, given the online course management system's feature utilized to designate sections of courses and assigning different tasks to each section. Both groups' online course consisted of 5 Modules, where Modules 1 and 5 were the same for each group.

According to Ally (2002) and Hoffman and Ritchie (1997), “online instruction occurs when learners use the Web to go through the sequence of instruction, to complete the learning activities, and to achieve learning outcomes and objectives” (Ally, 2004, p. 22). The online course that was designed for the Experimental Group in this study takes into consideration this philosophy and, in keeping with the online learning theory that was discussed in Chapter 2, was designed following the model proposed by Ally (2004). Modules 2, 3, and 4 follow the premise that “behaviorists’ strategies can be used to teach the “what” (facts), cognitive strategies can be used to teach the “how” (processes and principles), and constructivist strategies can be used to teach the “why” (higher level thinking that promotes personal meaning and situated and contextual learning)” (Ally, 2004, p. 7) respectively.

The EG Modules are based on Talaván Zanón’s (2009) proposed model of a subtitling activity for improving listening comprehension consisting of pre-viewing, central task, and post viewing activities. Table 11 provides the details of the proposed subtitling activity plan. Given the difference in this study’s design regarding the measurement of the dependent variable, the viewing portions of the proposed model were replaced by Modules 1 and 5, the listening comprehension pre and posttest observations.

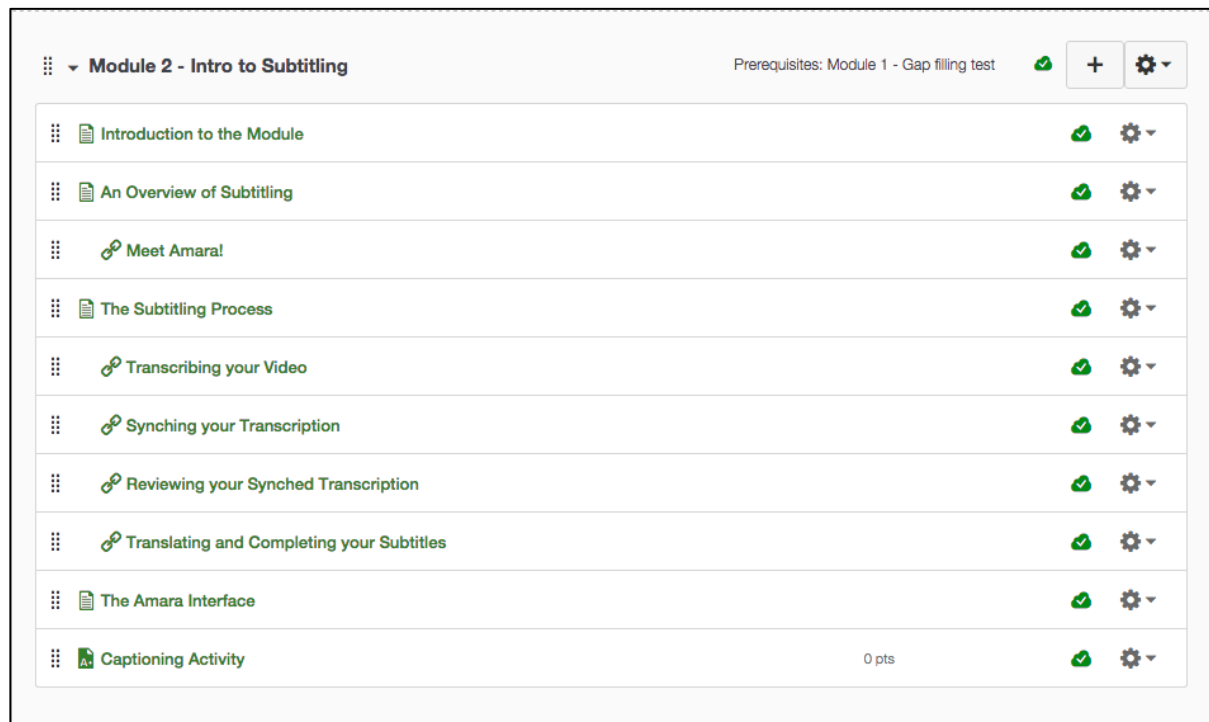


FASE DURACIÓN	ACTIVIDADES
<b>Pre-visionado</b> 5 minutos	Discusión oral previa a la visualización del primer clip. Temas: contenido de la película o serie de televisión, descripción de sus personajes principales, opinión acerca de los mismos, etc.
<b>Visionado</b> 10 minutos	Visualización del primer clip (dos veces) con subtítulos bimodales y test de CO en forma de resumen de todas las ideas que los alumnos recuerden haber comprendido.
<b>Tarea central</b> 15 minutos	Subtitulación individual (cada alumno en su ordenador o con un ordenador por cada dos alumnos, trabajando en parejas) del clip visionado con asistencia y apoyo del profesor (o tutor virtual) siempre que sea necesario. Finalmente, el clip subtitulado por un alumno al azar se muestra al resto del grupo a modo de ejemplo.
<b>Visionado</b> 10 minutos	Visualización del segundo clip (dos veces) relacionado con subtítulos bimodales y prueba de CO en forma de resumen de todas las ideas que los alumnos recuerden haber comprendido.
<b>Post-visionado</b> 10-20 minutos	Discusión oral acerca de los contenidos del clip. Se vuelve a ver dicho clip sin subtítulos. Preguntas de comprensión y léxicas por parte de profesor y alumnos. Segundo y último visionado del clip sin subtítulos. <i>Role-plays</i> opcionales imitando una situación comunicativa similar a las que aparecen en los clips.

*Table 11: Example Subtitling Activity Plan  
(Talaván Zanón, 2009, p. 220)*

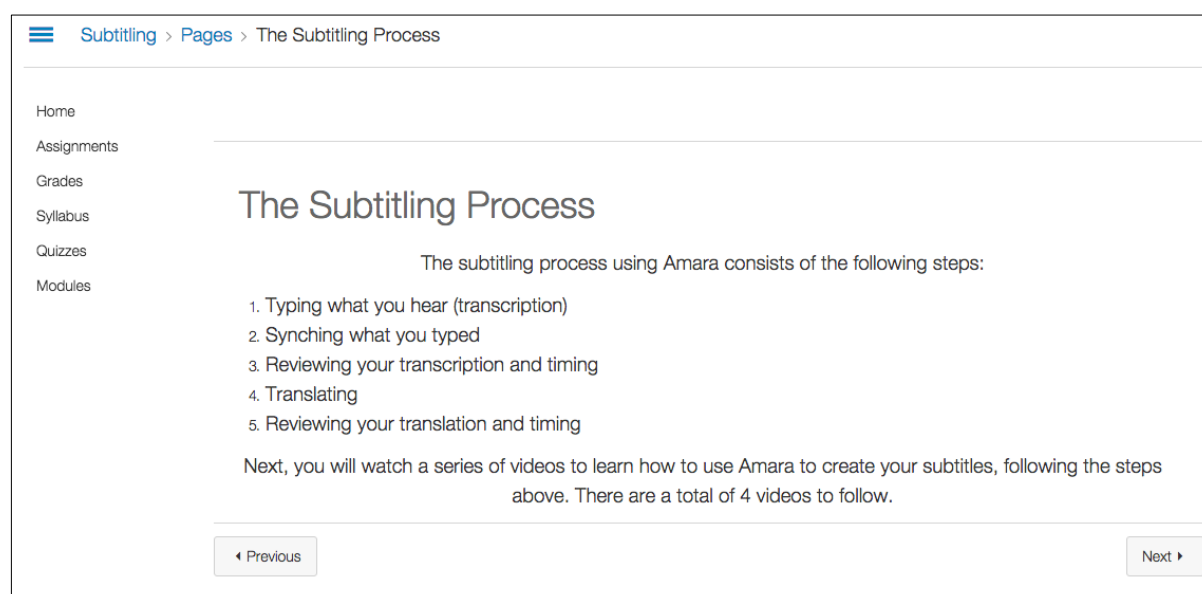
The EG Module 2 consisted of an introduction to the Module and provided participants with a basic introductory mini-course on subtitling, aimed at individuals with little to no extensive knowledge of translation and, more specifically, with no experience in audiovisual translation. The mini-course featured introductory lessons on the Amara subtitling platform, in the form of short videos and the Amara user guide. A detailed analysis of the Amara user interface was also provided, complete with a description of parts. Module 2 was broken down into various sub-tasks that were designed for learners to move through sequentially to understand the process of subtitling. This process was tailored specifically for the purposes of subtitling as a learner task, and purposefully did not include the same level of detail that a university audiovisual translation course would. The final activity of Module 2

involved the captioning of a short video using the Amara interface. A screenshot of the Canvas page of the Experimental Group's Module 2 can be seen in Figure 9.



*Figure 9: Experimental Group Module 2*

This Module also provided a short mini-course on subtitling, taking advantage of the help guides made available by the online subtitling platform Amara. Figure 10 is a screenshot of the “The Subtitling Process” page from Module 2.



*Figure 10: The Subtitling Process from Experimental Group Module 2*

One of the features of this study is the use of an online learning platform to carry out the subtitling task in its entirety. In order to avoid the need to download and install complicated software, most of which is operating system-dependent, this study makes use of an online subtitling platform. Amara.org is an online subtitling platform, originally known as “Universal Subtitles”, that “is home to an award winning subtitle editor that makes it easy to caption and translate video [...and] also hosts volunteer localization & accessibility communities, and offers professional tools and services for subtitles” (“Amara.org,” n.d.). The subtitling platform utilized in this study is one of the easiest to use and is available free of charge. Amara is the product of a larger organization, called the Participatory Culture

Foundation, which as “a 501c3<sup>[2]</sup> non-profit organization, is dedicated to supporting a democratic media by creating open and decentralized video tools and services” (“Participatory Culture Foundation,” n.d.). A detailed screenshot of the Amara subtitling interface is shown in Figure 11.

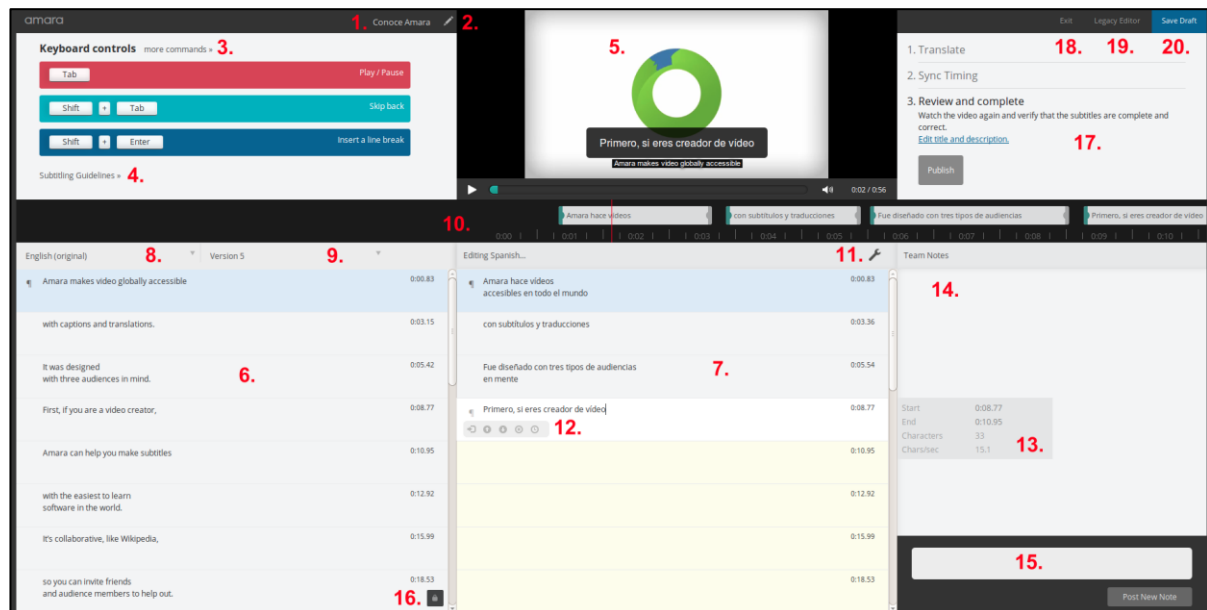


Figure 11: Amara Subtitling Interface

The final activity in the 2<sup>nd</sup> Module was for students to caption a video in Spanish in order to become familiar with the subtitling process and the Amara interface. Two screenshots, Figures 12 and 13, show both the assignment inside the Canvas platform as well as the Amara subtitling interface. The task was created using the Canvas ‘Assignment’ feature, and participants were required to submit the assignment for completion before being able to move forward to the next Module. The video used for the captioning activity was a short speech

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<sup>2</sup>A 501(C) is a tax-exempt nonprofit organization in the United States under Section 501(c) of the United States Internal Revenue Service Code: 26 U.S.C. § 501(c).

made by then Spanish Minister of Defense Carme Chacón regarding the accidental death of five Spanish military members, which occurred at the Spanish Army Engineering Academy in Madrid in February 2011 during an anti-mining training activity being carried out in preparations for an upcoming deployment to Lebanon.

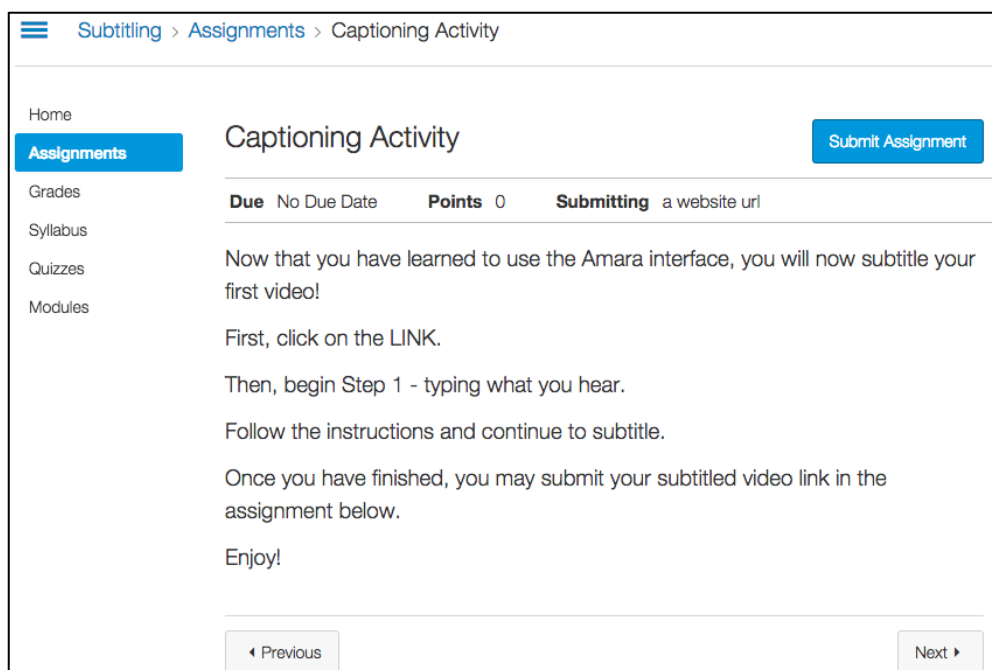


Figure 12: Experimental Group Module 2 Captioning Activity Assignment

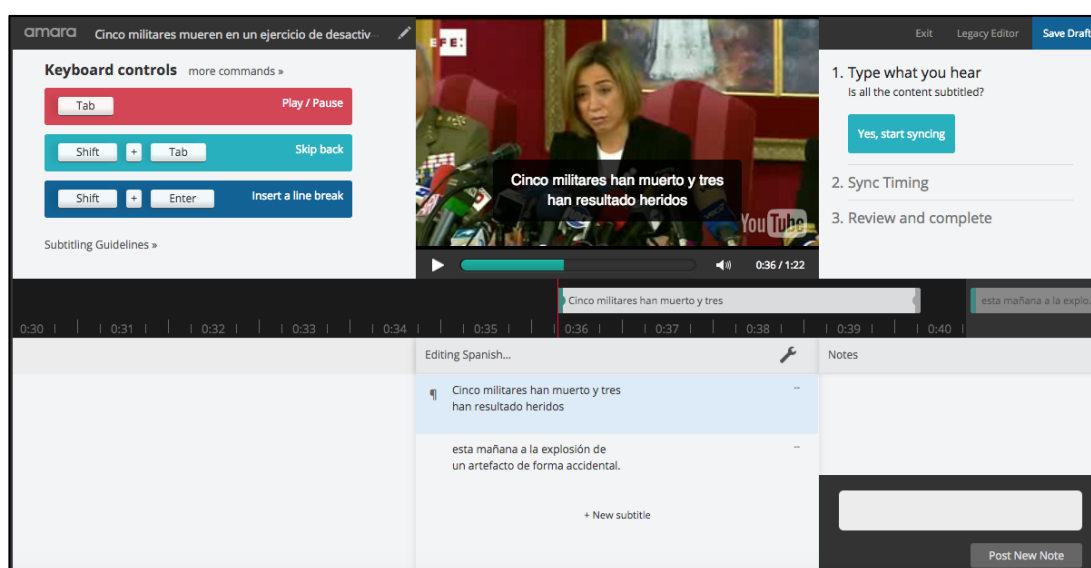
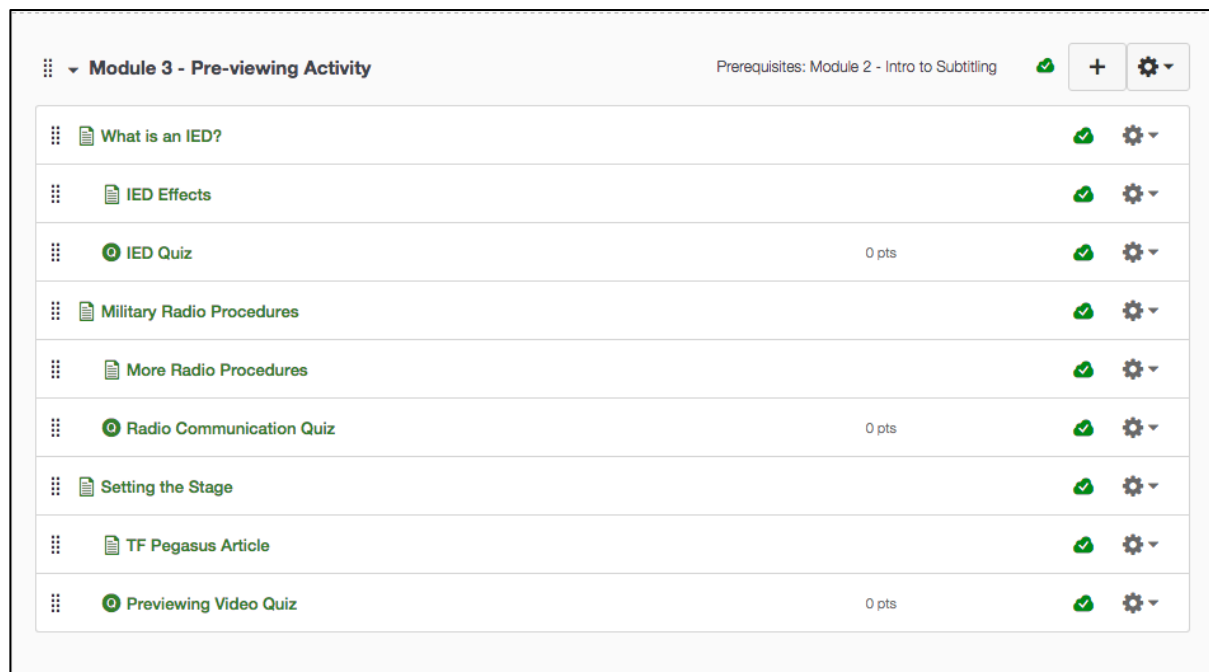


Figure 13: Experimental Group Module 2 Amara Captioning Activity

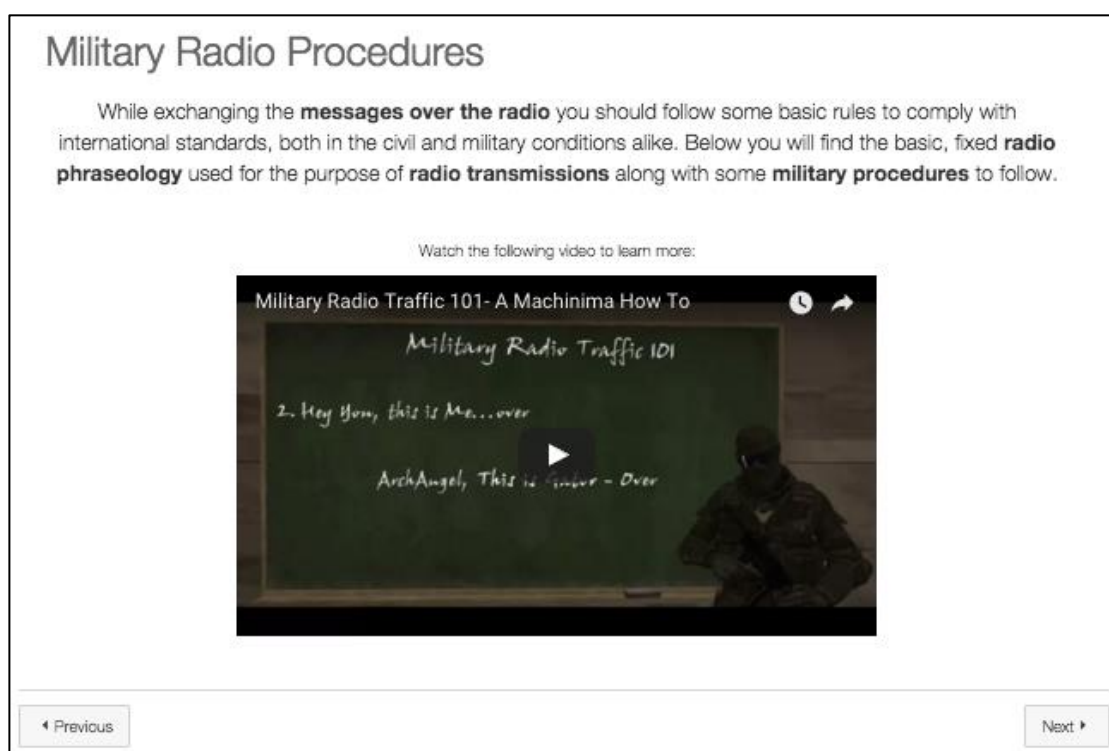
In EG Module 3, participants worked through the pre-viewing activity in accordance with the online learning theory previously discussed. Because the central task of the study, the subtitling task, would be presented in Module 4, this Module (#3) focused on the content of the video to be subtitled. A screenshot of EG Module 3 is shown in Figure 14.



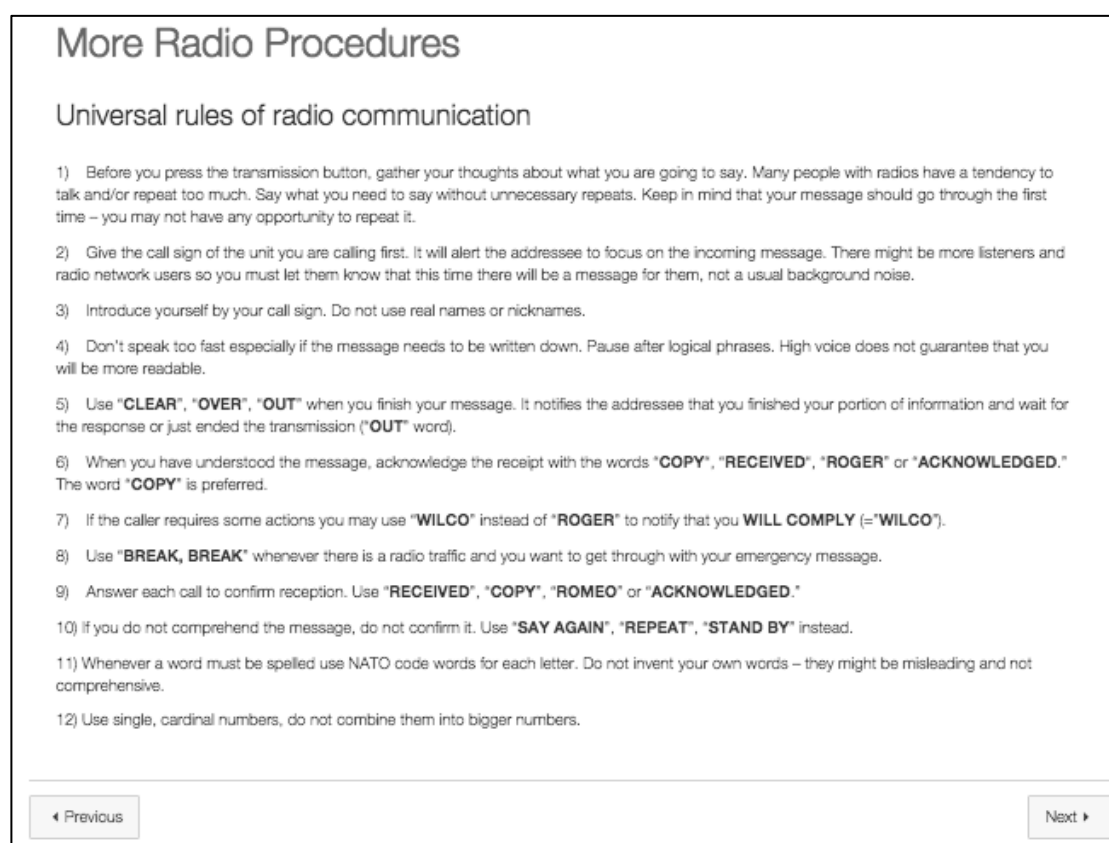
*Figure 14: Experimental Group Module 3*

All of the videos used in this study, including the pre and posttests, as well as the central subtitling task for the Experimental Group, and the parallel activity for the Control Group, involve military radio communications related to Improvised Explosive Devices, or IEDs. Thus, an advanced organizer was provided for learners to begin to activate their prior knowledge related to IEDs. A short quiz was required after coursing through the IED content. Several links to other NATO pages, including that of the NATO Counter-Improvised Explosive Devices Center of Excellence were included in the references for participants to seek further information as they wish.

When the IED quiz was passed with success, the next part of the module involved reviewing military call signs and radio procedures in accordance with NATO standards. The phonetic alphabet, procedure words (known as prowords), and numbers were reviewed and a short quiz was given at the end of the review. Two screenshots are provided in Figure 15 and Figure 16, which show the two content pages related to military radio procedures.



*Figure 15: Experimental Group Module 3 Military Radio Procedures*



*Figure 16: Experimental Group Module 3 More Military Radio Procedures*

Next, participants were guided through a pre-viewing activity, where they were asked to make predictions about what they would see and what they think would happen. A newspaper article featuring the military unit that appears in the video was provided for students to read, which can be found in the Appendices.

After working through Module 3, participants assigned to the Experimental Group moved on to Module 4, the subtitling task under study in this experiment. This Module consisted of basic preparatory information regarding the requirements of the task and provided the video as well as the spotting in SubRip Text format, which appears as a file extension as “.srt”. Because the task was designed for language learning purposes, and not for the explicit training of subtitlers or translators, this step was provided for the participants in an effort to save time and frustration when dealing with the subtitling platform. The clip that



was subtitled consisted of B-roll footage that was once again taken from an Attack Weapons Team of helicopters belonging to the United States Army's 82<sup>nd</sup> Combat Aviation Brigade from Fort Bragg, North Carolina as part of Task Force Pegasus. The pilots are "observing insurgents in the act of emplacing an Improvised Explosive Device in southern Afghanistan" ("Self Destructing IED," 2009). The clip length is approximately 2 minutes and 55 seconds and includes a total of 59 subtitles. The spotting list for the clip can be found in Appendix E.

This clip was chosen for a variety of reasons, namely, the relationship to the clips used for the pre and post-test from the Marshall Center's Tactical Communications English Workshop. Given the limited availability of related video clips that have been released from ISAF missions, the fact that this clip dealing with helicopter radio and camera communications was available from DVIDS, and the fact that it related directly to the clips used at the Workshop, made it an ideal choice. While the recommendations provided by Talaván Zanón (2013), such as a clip length of no longer than 2 minutes, given the aforementioned constraints in locating a usable clip related to the pre and post-test clips, the video chosen for the subtitling task did not fit the recommended specifications. Nonetheless, because this study's experimental procedures regarding the assessment of listening comprehension differ profoundly from those assessments utilized by Talaván Zanón (2013), many of the other decisions that would need to be taken into consideration had the listening assessments been the same as those used in Talaván Zanón's (2013) research, many of the clip characteristics described therein do not apply to this study.

The Experimental Group's Module 4 consisted solely of the subtitling task, which can be seen in Figure 17. While ideally the entire series of Modules would have been carried out directly through the Canvas platform, given technical limitations and the inability for integration between the two systems, participants were taken to the Amara page via a new tab

in their browser. The implications as well as other recommendations for further technological development related to this limitation will be discussed further in Chapter 5.

**Subtitling Task** [Submit Assignment](#)

**Due** No Due Date **Points** 0 **Submitting** a website url or a file upload  
**File Types** srt and mov

You have now worked your way through the modules to the central activity - the **subtitling task**. Utilizing all the skills you have covered up to this point, along with the knowledge of radio procedures and IEDs, you will now subtitle a 3-minute clip.

To get started, click on the following link, which will take you to the Amara subtitling editor.

Good luck, and have fun!

**SUBTITLING ACTIVITY:** [Apache gunships with the 82nd Combat Aviation Brigade, TF Pegasus](#)

[◀ Previous](#) [Next ▶](#)

*Figure 17: Experimental Group Module 4 Subtitling Task*

Upon completion of the subtitling activity, participants were directed back to the Canvas platform where they submitted the link to their subtitled video through the Assignment page on Module 4. They were also directed to download and submit the .srt file of their subtitles if they so desired. As previously mentioned, Module 5 contained the radio communication post-test, and was the same for each Group. Before completely finishing the project, each participant was directed to complete the end-of-course survey, also located within the Canvas learning management system. This survey, which will be explained in detail after the following section, was used to gather information to answer Research Question 3.

### **b. Control Group**

In the case of the Control Group, the parallel treatment that was applied consisted of viewing subtitled audiovisual material. That is, the Control Group was shown the same video that was used as the central subtitling task in the experimental treatment, but in this case, the video included the English-language captions, or intralingual subtitles. Again, intralingual subtitles are those that “are composed in the same language as the source text speech” (Pérez-González, Luis, 2009, p. 15). As in the case of the Experimental Group, Module 1 and Module 5 were the same for all participants, regardless of their Group of assignment, consisting of the pre and post radio listening comprehension tests.

Whereas the Experimental Group’s Module 2 consisted of a mini-course on subtitling, the Control Group’s (CG) Module 2 focused on strategies for watching audiovisual content with same-language subtitles and some listening comprehension strategies. According to Danan (2004) “since many students are inexperienced users of subtitles or captions, it is crucial that intentional, effective use of strategies be taught” (p. 75). Therefore, because the Control Group will be exposed to the viewing of the audiovisual material with intralingual subtitles, it is more than appropriate to utilize the pre-viewing Modules (2 and 3) to teach some strategies for viewing subtitled audiovisual material.

As cited in Danan (2004), Thompson and Rubin (1996) state “listening comprehension improved significantly for students who were systematically taught cognitive and metacognitive strategies, compared to learners who were simply provided opportunities for listening” (Danan, 2004, p. 74 as paraphrased from Thompson & Rubin, 1996). Specifically, the cognitive strategies of prediction, dependence on familiar words, and jotting down unknown words and ideas for follow-on reference are noted. Furthermore, metacognitive strategies “include ‘planning,’ i.e. how to watch a section (how many replays and at what pace, how to use the sound, etc.); ‘defining goals,’ i.e. deciding on what to listen

for and how much is needed for basic comprehension; ‘monitoring,’ i.e. self-assessing comprehension, identifying difficulties, judging strategy effectiveness, and choosing strategies in a flexible manner” (Thompson & Rubin, 1996, pp. 331, 335) as cited in (Danan, 2004, p. 74). Thus, the CG’s Module 2 consisted of a mini-course of strategies that were meant to prepare the participants for the viewing activity in Module 4.

First, participants were given a very short introduction to the Module and a brief overview of the different types of subtitles, either same-language or interlingual subtitles. Next, they were asked to read an article about the same-language subtitling project used in first language literacy programs. Then, they watched a video of former U.S. President Bill Clinton speaking about the project, with his speech in captioned text.

After watching the previous video with the captions, specific strategies regarding how to use subtitles were presented, and an opportunity to test out the strategies followed. Participants watched an animated video of a children’s book, *The First Well*, with captions. They were asked to make predictions about what would happen after certain points in the story. An online non-graded quiz was given for participants to provide feedback on their predictions before moving forward with the video.

In an effort to support metacognitive strategies, lastly, participants were introduced to Dual-Coding Theory (Paivio, 1990) and the Cognitive Theory of Multimedia Learning (Mayer, 2005) via short, creative doodle-style videos. Regarding Dual-Coding Theory, making participants aware of information processing overload that is often associated with viewing subtitled film, for example, was presented in an effort to increase self-awareness and management. With respect to the Cognitive Theory of Multimedia Learning, the split-attention effect was highlighted, once again, in order to make participants aware of this possibility so that they would be more aware and therefore more able to accommodate for potential effects. An overview of the CG Module 2 can be seen in Figure 18.

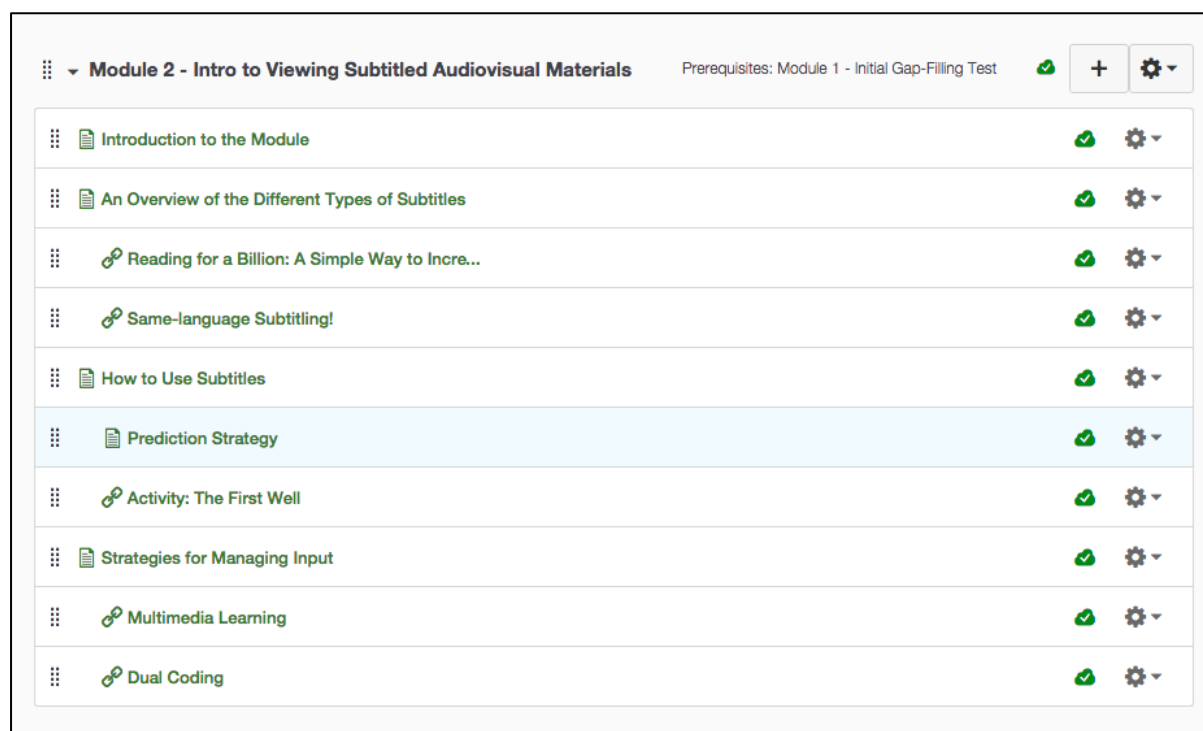


Figure 18: Control Group Module 2

Given the fact that the video used in CG Module 4 for the viewing activity was the same as the video used in the EG Module 4 for the subtitling activity, the CG's Module 3, consisting of pre-viewing activities, was the same as Module 3 used for the Experimental Group. The content of IEDs, military radio procedures, and the article related to Task Force Pegasus was also applicable to the Control Group in this case. This dual use of the Module 3 for both groups makes logical sense and also makes the experiment as similar as possible for both groups by isolating of the experimental treatment (the subtitling task). This should lead to more reliable conclusions on the success of the experimental intervention during the follow-on analysis of the data from the pre and post-test.

### **3. End-of-Course Survey**

In order to gather data on the participants in general, as well as with regards to Research Question 3 (“To what extent does the use of an online learning management system support subtitling as a task for learners of English for the military?”), participants from both the Experimental Group and the Control Group were provided with final end-of-course surveys after they completed all tasks within the modules of the course. The survey was delivered online via the learning management software Canvas, and was integrated seamlessly into the platform. This integration allowed for all data collected to be correlated to the participant ID number so that the information gathered in the survey could be used to analyze the data on performance, such as language learning ability age, and NATO rank. General biographical information, language education history, and language self-assessment were contained in the survey. The language self-assessment utilized was taken from the Common European Framework of Reference for Languages self-assessment grid (“Europass: European language levels (CEFR),” 2004). In order to evaluate attitudes toward the learning management system, specific questions for the Experimental Group regarding the use of the Canvas platform and the Amara subtitling system, and their integration, were included. The information obtained from this portion of the data-collection instrumentation will be used to analyze Hypothesis 3 (The Experimental Group will inform that the learning management system supports subtitling as a task for learners of English for the military).

Separately, specific questions were given to the Control Group regarding the use of the Canvas platform and the activity as a whole. While the specific research question that relates to the use of the online learning management system (To what extent does the use of an online learning management system support subtitling as a task for learners of English for the military?) only applies to the Experimental Group, the survey was given to all participants in order to gain feedback related to the use of the Canvas platform, as well as specifically for

the Experimental Group to inform about their opinions of the use of both Canvas and the Amara platforms.

According to Robson (2002), “surveys provide a relatively simple and straightforward approach to the study of attitudes, values, beliefs and motives” (p. 241) and therefore are an ideal way to collect information from participants regarding their attitudes toward the activity in which they took part. Given the online nature of this study, the most efficient and logical way to collect the survey data is via the Internet, taking advantage of the learning management system that is being utilized for the study itself. The survey was incorporated into the course as a final module, giving participants a sense of completion and an opportunity to provide feedback for the activity.

The first part of the survey was the same for both the Control and the Experimental Group and consisted of questions regarding age, native language, NATO rank, gender, education level, and self-assessed listening comprehension skills in accordance with the Common European Framework model, as seen in Figure 19.

**6. Please choose your self assessed listening comprehension level:**

- ☐ Reconozco palabras y expresiones muy básicas que se usan habitualmente, relativas a mí mismo, a mi familia y a mi entorno inmediato cuando se habla despacio y con claridad.
- ☐ Comprendo frases y el vocabulario más habitual sobre temas de interés personal (información personal y familiar muy básica, compras, lugar de residencia, empleo).
- ☐ Comprendo las ideas principales cuando el discurso es claro y normal y se tratan asuntos cotidianos que tienen lugar en el trabajo, en la escuela, durante el tiempo de ocio, etc. Comprendo la idea principal de muchos programas de radio o televisión que tratan temas actuales o asuntos de interés personal o profesional, cuando la articulación es relativamente lenta y clara.
- ☐ Comprendo discursos y conferencias extensos e incluso sigo líneas argumentales complejas siempre que el tema sea relativamente conocido. Comprendo casi todas las noticias de la televisión y los programas sobre temas actuales.
- ☐ Comprendo discursos extensos incluso cuando no están estructurados con claridad y cuando las relaciones están sólo implícitas y no se señalan explícitamente. Comprendo sin mucho esfuerzo los programas de televisión y las películas.
- ☐ No tengo ninguna dificultad para comprender cualquier tipo de lengua hablada, tanto en conversaciones en vivo como en discursos retransmitidos, aunque se produzcan a una velocidad de hablante nativo, siempre que tenga tiempo para familiarizarme con el acento.

*Figure 19: Common European Framework of Reference for Languages Self Assessment for Listening Comprehension Skills*

The Experimental Group-specific questions involved their attitudes toward the online learning platform and the subtitling platform, including ease of use and level of enjoyment. The following input provided by Robson (2002) was taken into account when designing the survey questions:

- Keep the language simple
- Keep questions short
- Avoid questions in negative
- Use personal wording (Robson, 2002, pp. 255–6)

The survey responses were provided in the form of Likert scales, given the fact that “items in a Likert scale can look interesting to respondents and people often enjoy completing a scale of this kind” (Robson, 2002, p. 306). Participants were asked to respond to a series of personalized statements with one of 5 responses, from Strongly Disagree to Strongly Agree. The section specific to the Experimental Group can be seen in Figure 20.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I enjoyed the activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online Canvas platform was easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The modules were well organized/followed a logical sequence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The mini-course on subtitling was helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The Amara platform was easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The subtitling process was fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making subtitles was easy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Subtitling helped to increase my listening comprehension	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Figure 20: Experimental Group Specific Survey Questions*



Although the Control Group did not complete the subtitling activity, the information obtained from the end-of-course survey as provided by this Group is also valuable for consideration. Therefore, the portion of the survey dealing with their opinions of the platform was modified for the case of the Control Group. This portion can be seen in Figure 21.

	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree
I enjoyed the activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The online Canvas platform was easy to use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The modules were well organized/followed a logical sequence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The mini-course on how to watch subtitles was helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching videos with subtitles in English was fun	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Watching videos with subtitles in English helped to increase my listening comprehension	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Figure 21: Control Group Specific Survey Questions*

## **H. Limitations**

As with all research, there are certain unavoidable limitations that are inherent to the study. One of the primary limitations of the present study is that of the virtual nature of the setting and the lack of face-to-face interaction between the researcher and the participants. Given that the intervention under study is unfamiliar to the participants, carrying out the experiment in person could be a more ideal situation. However, because one of the aspects of the study is to determine the effectiveness of implementing the intervention via an online learning management system, the study must be conducted in this manner. Therefore, while

somewhat of a limitation, because it is one of the principal research questions, this aspect is inherent to the study itself.

Regarding sampling, although there are multiple member countries of NATO, the population was defined as professional, career members of the Spanish armed forces enrolled in an English course offered by their branch of service, and members of the Spanish armed forces were used as participants (the sample). Taking into consideration the idea of population with respect to experimental research, this limitation on the population defined for this study will remain important throughout the experimental procedure and the data analysis. By defining the population as such, the results of the study may be applied to the population, depending on the outcome of the data analysis. This generalization to the larger NATO member countries' armed forces would not be conceivable if the population had been defined as such, given that the sample was taken from only one member country's armed forces.

Furthermore, another limitation of the study is the relatively small sample size and the method of sampling from the population. Because of the convenience-based sampling method utilized to obtain the sample for this study, there will be limitations in the generalizability of the results. Had the study's sampling method been one other than convenience-based, the ability to generalize results would be greater; however, as this is not the case, the results, however positive they may be, will remain anecdotal and nothing more than suggestive. In addition to the sample size and the sampling method limitation, time shall also be considered as one of the limitations of the study, given that the research was conducted over a short period and was not longitudinal in nature. The results and the possible decisions based thereon will keep this fact in mind, in order to avoid assumptions about the potential long-term effects of the intervention under study.

#### IV. Chapter 4: Analysis and Discussion

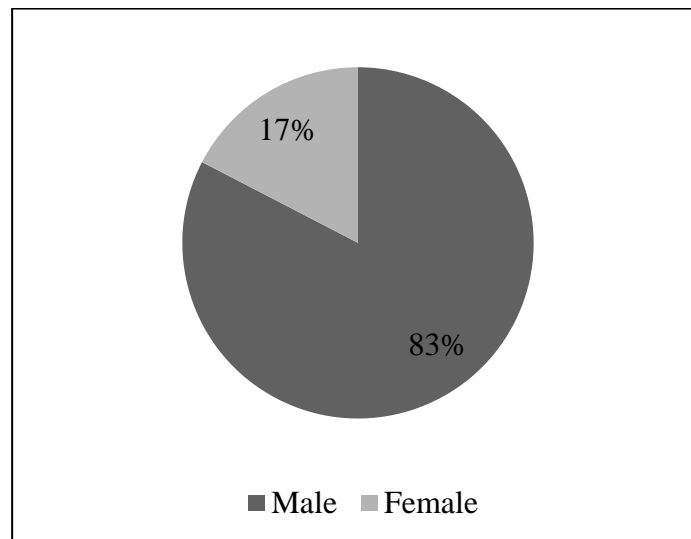
##### A. Introduction

As stated in Chapter 1, the purpose of this study is to test the effect of subtitling as a learner task on listening comprehension by comparing subtitling as a learner task and viewing of subtitled audiovisual material to listening comprehension via military radio for the research study participants. The chapter begins with a description of the demographics of the sample. Next, data description is provided following the path of the experimental procedures as outlined in Chapter 3. Lastly, the basic data analysis methodology is provided, the results are presented, and the chapter concludes with a discussion of the implications of the findings as they relate to the Hypotheses proposed. It is important to keep in mind these Hypotheses throughout this chapter:

H1	The Experimental Group's scores on military radio-based listening comprehension assessments will be higher than those of the Control Group as a result of the subtitling task.
H2	The Control Group's scores on military radio-based listening comprehension assessments may increase as a result of viewing subtitled audiovisual material.
H3	The Experimental Group will inform that the learning management system supports subtitling as a task for learners of English for the military.

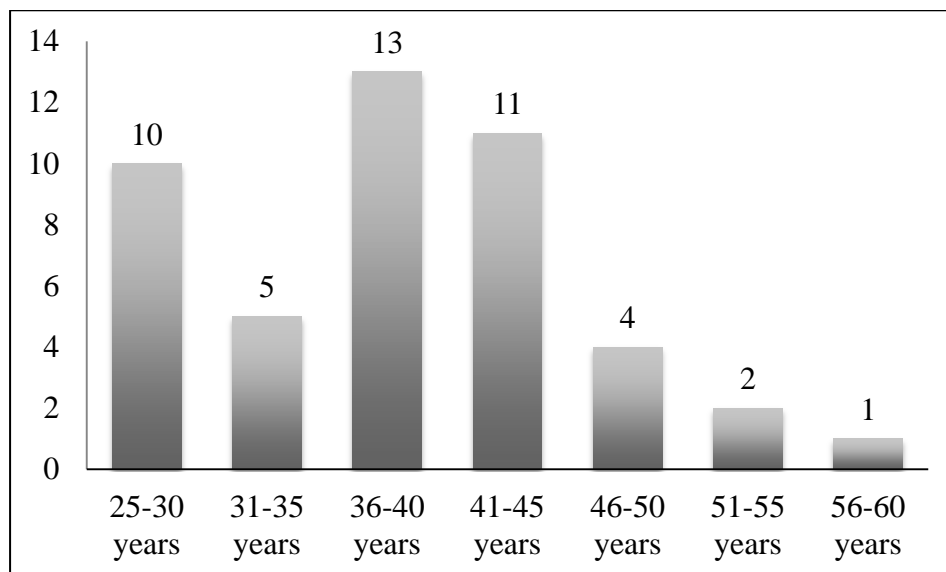
## **B. Description of the Sample**

The sample in the present study consisted of 46 participants, all native Spanish speakers and members of the Spanish military, possessing a minimum intermediate level of English with an SLP (Standardized Language Profile) of 2-2-2 (listening, speaking, writing), which is generally equivalent to a B-1 according to the Common European Framework of Reference for Languages (CEFR) as would be reported on either the Cambridge exam with a passing PET score or on the IELTS exam with a score of 4. Eighty-three percent of the sample was male, while seventeen percent was female, as seen in Figure 22.



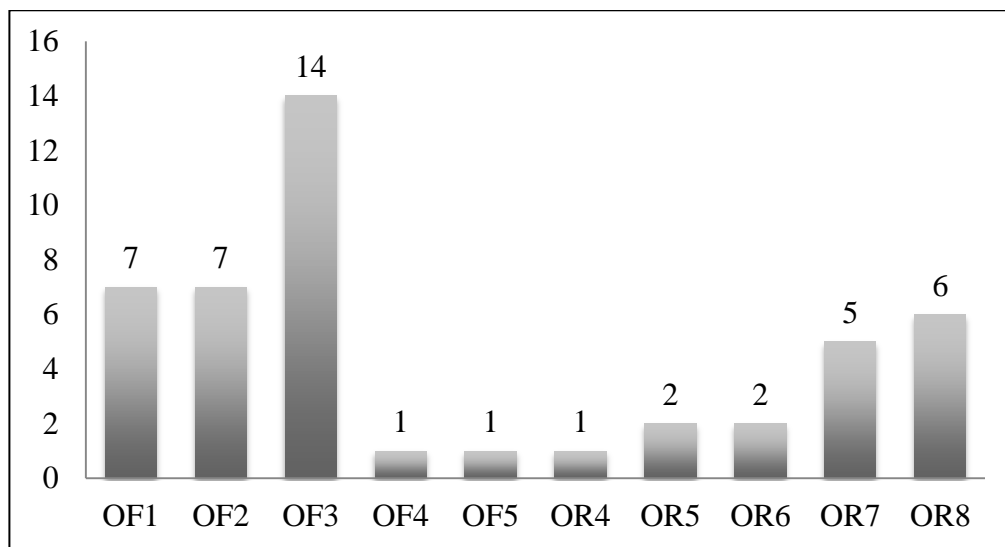
*Figure 22: Gender Distribution of the Sample*

The ages of the participants ranged from 25 to 57 years of age and the age distribution is displayed in Figure 23. Of the 46 participants that make up the sample, the age range is 32, the mean is 38 years of age, and the mode is 37 years of age.

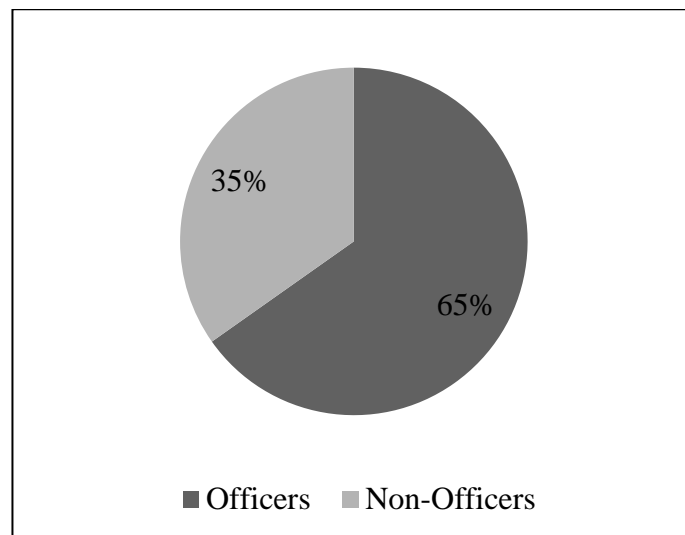


*Figure 23: Age Distribution of the Sample*

The sample consisted of participants from both the enlisted and officer ranks. The NATO rank system is a standardized system across NATO in accordance with NATO STANAG 2116, *NATO Codes for Grades of Military Personnel*. The officer ranks range from OF1 being the lowest, usually lieutenant, to OF10, senior general or admiral. The enlisted ranks range from OR1 to OR9, again from lowest ranking to highest ranking. This study's sample ranges in NATO rank from OR3 to OF5, with most participants holding the rank of OF3. Furthermore, the sample is made up of 65% officers and 35% non-officers. This information is displayed graphically in Figure 24 and Figure 25, respectively.



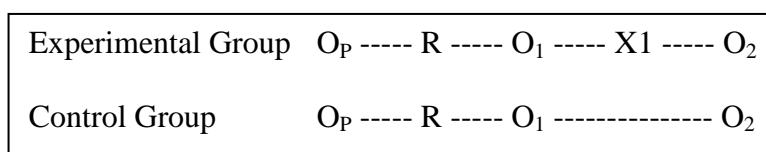
*Figure 24: NATO Rank of the Sample*



*Figure 25: Officers vs. Non-Officers Makeup of the Sample*

### C. Blocking Factor and Assignment to Groups

Having provided a general description of the demographics of sample, the data will continue to be presented in a logical manner following the experimental procedures detailed in Chapter 3. This section is focused on Hypotheses 1 and 2, while the end of this chapter will deal with Hypothesis 3 specifically. For this section, the experimental procedures are displayed graphically once again in Figure 26.



*Figure 26: Experimental Design*

The first observation (measurement) that was taken was the blocking factor used to assign the participants to the groups, represented in Figure 26 as O<sub>P</sub>. Once again, the blocking factor that was utilized for this purpose was the TOEIC ®. All 46 participants were given this exam and the results are shown in Figure 27. In this figure, the TOEIC ® scores are shown on a scatterplot as a percentage and are displayed in relation to the unique participant ID number assigned to each participant. The unique participant ID is an arbitrary ID number, known only to the researcher, that ties each participant to the data the data obtained at the different observation points throughout the experiment. The unique ID was assigned as participants enrolled in the Canvas online learning management system, and is unrelated to any other variable in the study. Figure 27 shows the random nature of the scores from the observation used for the blocking factor.

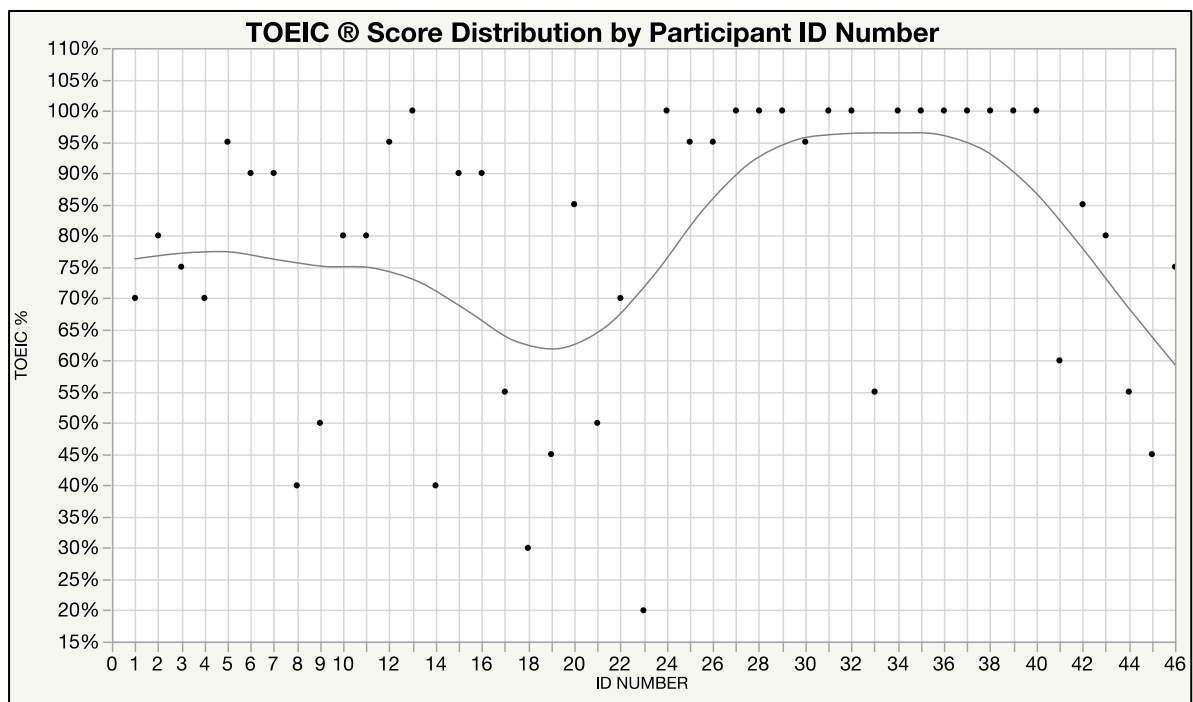


Figure 27: TOEIC ® Score Distribution by Participant ID Number

Because the TOEIC ® was to be used as the blocking factor to increase randomization, it was important to also examine whether or not there existed any relationship between the results on this blocking factor and any external variables, such as NATO rank and age. Any relationship between these external variables and this blocking factor could potentially skew the results of the randomization used to form the matched pairs. In order to answer this question, the coefficient of correlation was calculated to compare participant age and NATO rank to the results on the TOEIC ®. Pearson's product-moment correlation coefficient, also known as Pearson's  $r$ , is used to determine the existence, or not, of a linear relationship between variables, represented by a  $p$ -value, and the strength of that relationship, represented by the  $r$ -value. Statistically speaking, when a correlation coefficient is  $R = 1.0$  this signifies a perfect positive linear correlation, whereas when or  $R = -1.0$ , the correlation is said to be a perfect negative correlation. According to Cohen (1988), the strength of the relationship



between variables using the *r-value* can be interpreted as either weak when  $|r|=0.1$  to  $0.29$ , moderate when  $|r|=0.3$  to  $0.49$ , or strong when  $|r|=0.5$  to  $1.0$ . This analysis was calculated utilizing the JMP statistical package (discussed below) and the results of the analysis are shown in Figure 28.

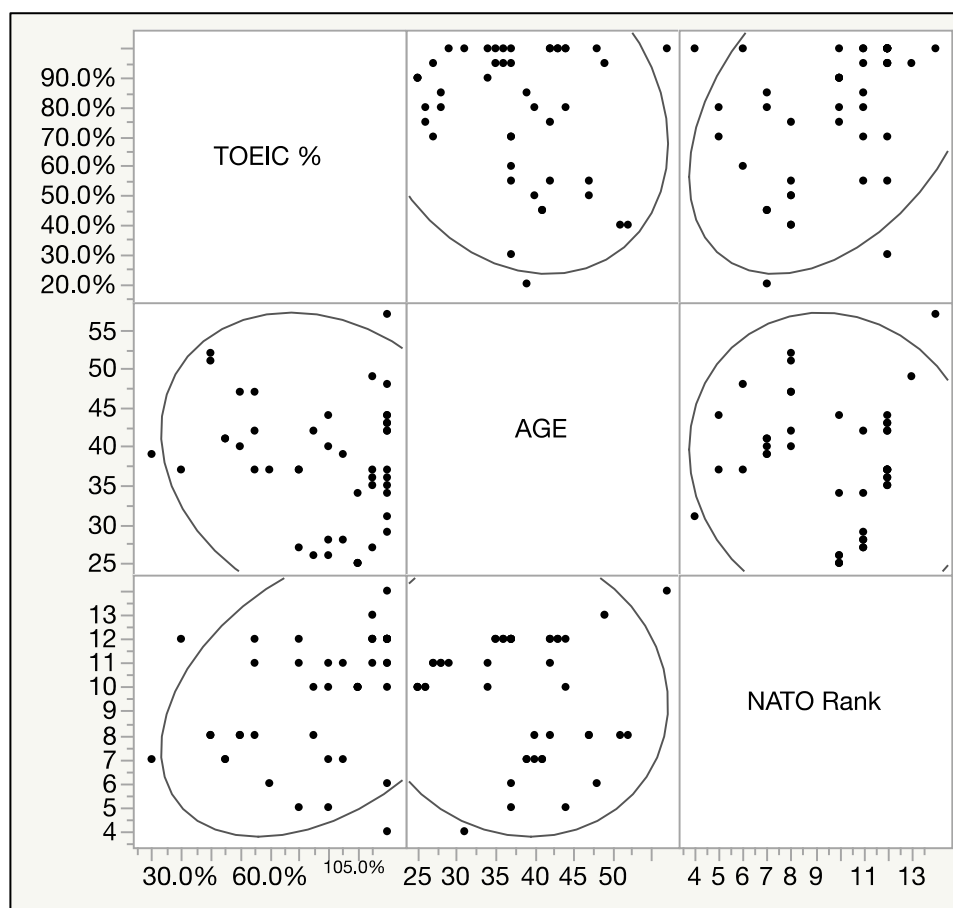


Figure 28: Correlation Coefficient TOEIC ® by Age and NATO Rank

This figure shows graphically that there is no apparent linear relationship between the variables. However, the visual representation is not wholly sufficient to make this determination. Therefore, the calculation of Pearson's *r* for the relationship between each variable is displayed in Table 12. As displayed, all R-values are somewhere between  $-1.0$  and  $1.0$ , indicating that there is no linear relationship between any of the variables. This is an

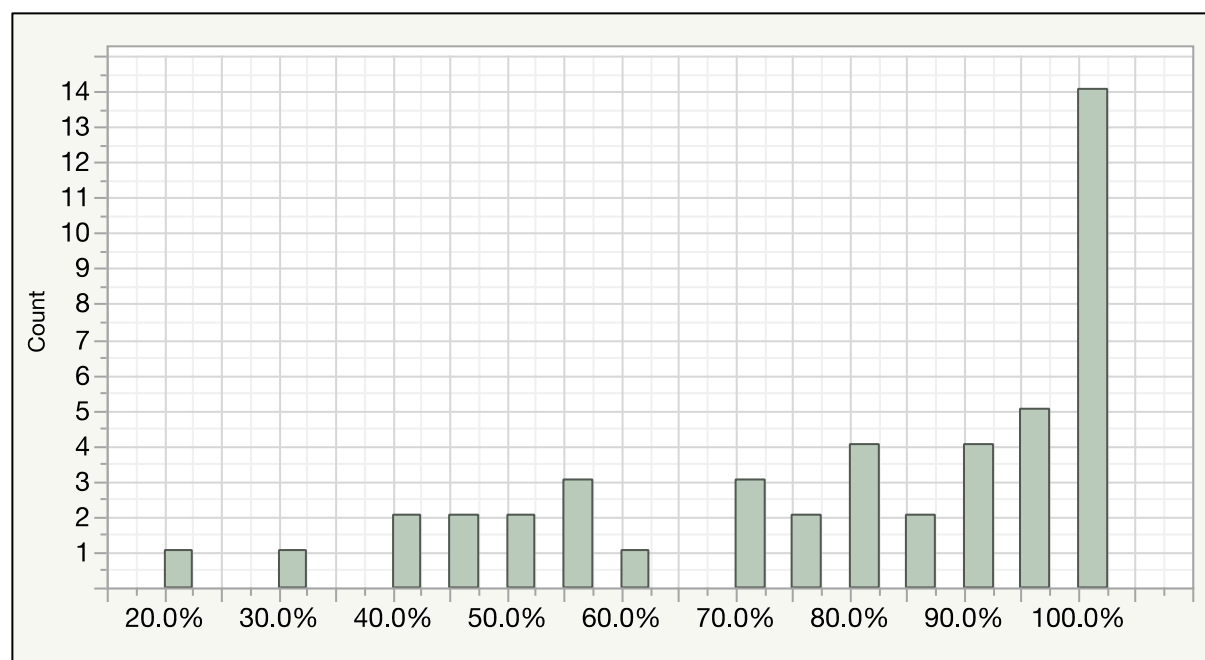
important finding as it applies to the randomization of assignment to either the Control or Experimental Group, and supports the creation of homogenous groups for study.

<b>Variable</b>	<b>TOEIC ® %</b>	<b>AGE</b>	<b>NATO Rank</b>
<b>TOEIC ® %</b>	<b>1.0000</b>	<b>-0.2047</b>	<b>0.4064</b>
<b>AGE</b>	<b>-0.2047</b>	<b>1.0000</b>	<b>-0.0870</b>
<b>NATO Rank</b>	<b>0.4064</b>	<b>-0.0870</b>	<b>1.0000</b>

*Table 12: External Variable and TOEIC ® Correlation Coefficient R-Values*

All relationships were investigated using the Pearson product-moment correlation coefficient and preliminary analyses were performed to ensure no violation of the assumptions of normality. There was a weak negative correlation between the TOEIC ® and Age, a moderate positive relationship between TOEIC ® and NATO Rank, and a weak negative relationship between NATO Rank and Age, as displayed in Table 12.

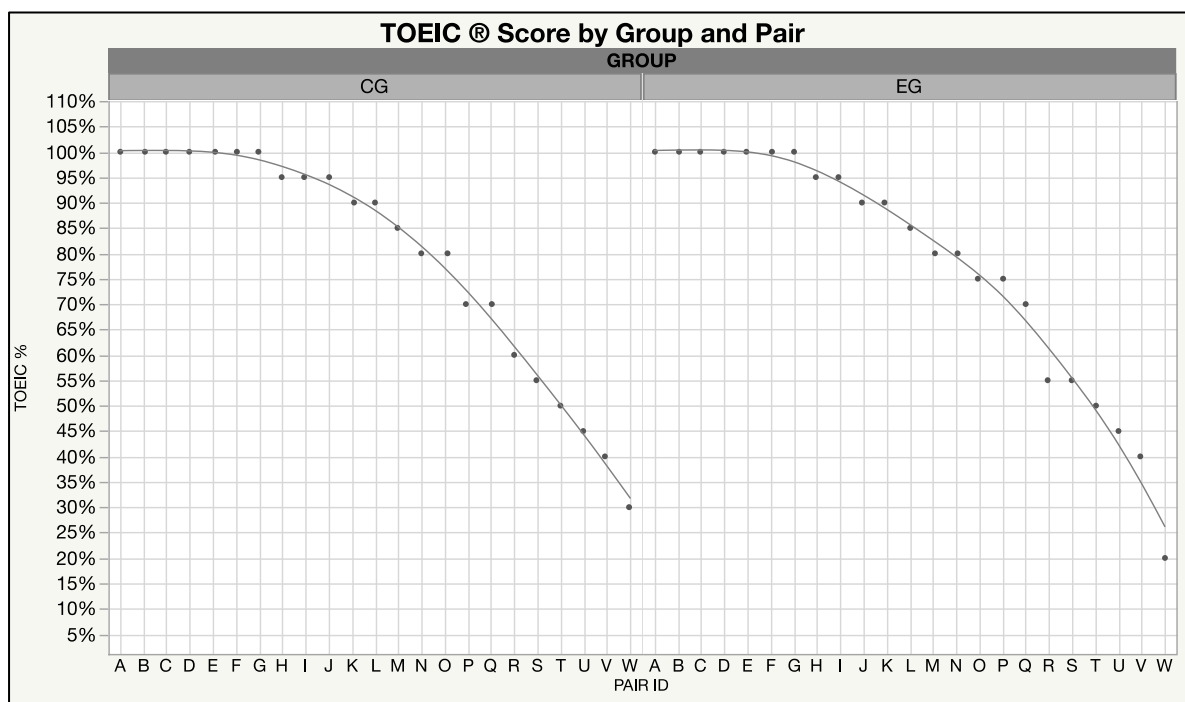
The distribution of scores on the TOEIC ® as a percentage are presented by count in Figure 29. This figure shows the range of scores and the number of participants who received that score. These scores range from 20% being the lowest score obtained by 1 participant, to the highest score of 100% being obtained by 14 participants.



*Figure 29: TOEIC ® Score Distribution*

As discussed in Chapter 3, the scores were ranked from highest to lowest, and matched pairs were formed. Each member of these newly formed pairs was subsequently randomly assigned to either the Control or Experimental group, represented by R in Figure 26. This design is randomized on the individual level, as opposed to the group level, and “helps to reduce the problem of differences between individuals obscuring the effects of the treatment in which [...we] are interested” (Robson, 2002, p. 106). Furthermore, this design accommodates for external factors that may contribute to an increase in listening comprehension scores later on in the experiment by allowing for these factors to be accounted for before the assignment of the participants to the groups. For example, if a participant had been recently posted abroad in an English speaking NATO headquarters, this participant would likely demonstrate a higher level of listening comprehension than another participant without this advantage. Therefore, the blocking factor takes this fact into account before it could potentially interfere with the experiment. Lastly, the matched pair design allows for further randomization of the participants, yielding a more accurate analysis of the

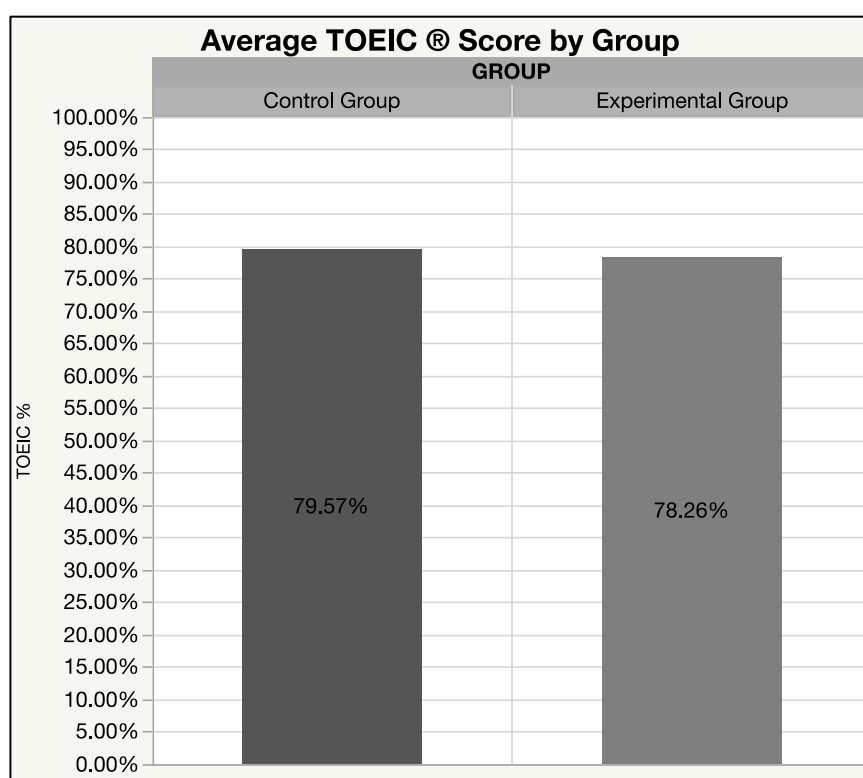
effect of the intervention under study. Figure 30 provides a graphic display comparison of the Experimental and Control Groups based on the scores on the TOEIC ® used as the blocking factor. This figure provides an important visual for the premise of the study in that the Experimental and Control Groups are nearly identical in terms of the blocking factor, and thus in terms of the dependent variable – listening comprehension skills. This figure is of paramount importance as it displays that the randomization employed in this experimental design resulted in comparable groups. The successful randomization that yielded two equal groups significantly increases the internal validity of the experiment.



*Figure 30: TOEIC ® Score by Group and Pair*

While the previous figure shows exact scores by individual participant and a simple visual comparison can be made to show the similarity of the groups, Figure 31 shows the

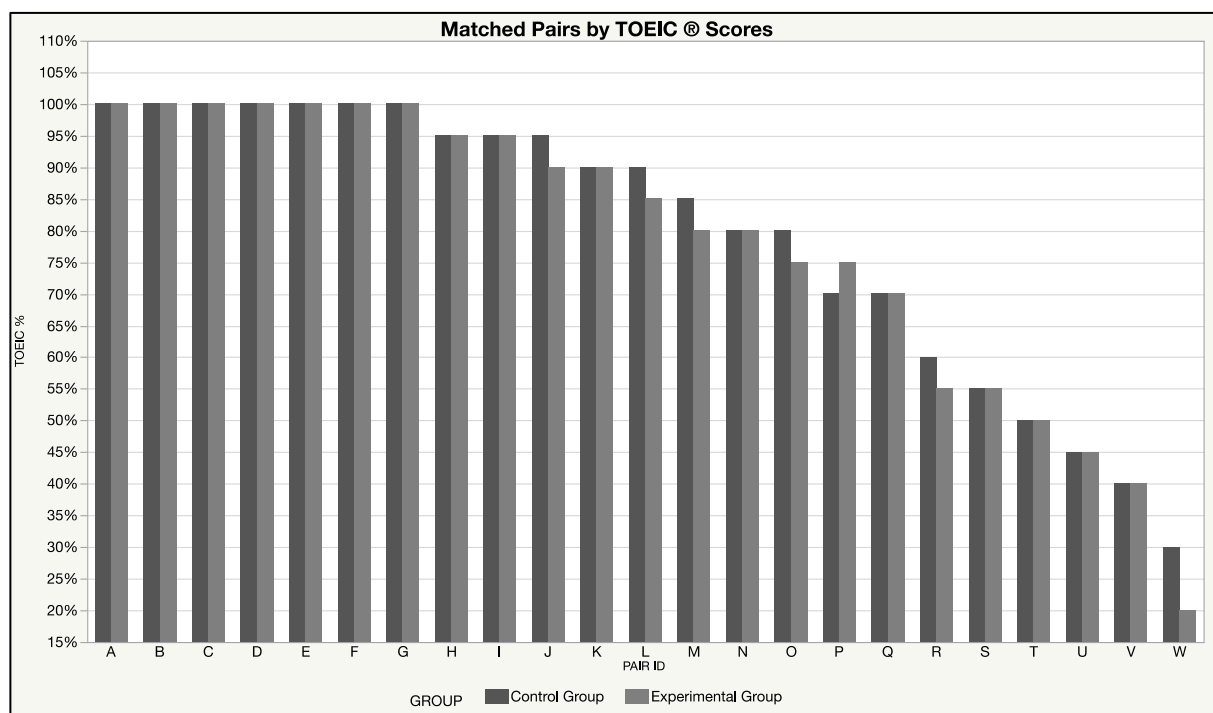
mean scores on the TOEIC ® for each group, whereas the Control Group's average score is 79.57% and the Experimental Group's average score is 78.26%. With a difference of only 1.31 percentage points it is important to highlight the homogeneity of the groups in order to further isolate the potential effects of the experimental treatment on the dependent variable, listening comprehension in English via the military radio.



*Figure 31: Average TOEIC ® Score by Group*

An analysis of the pairs is presented in Figure 32, allowing for a comparison of the unique pairs as part of the matched pairs design. Each pair was assigned a letter from A to W whereas pair A had the highest scores and pair W had the lowest scores. As you can see, 16 of the 23 pairs had exact matching scores on the blocking factor. Seven remaining pairs were made up of participants whose scores on the blocking factor were not exactly the same, but

were only different by no greater than 5%. Only one of the 23 pairs had a difference between participants of greater than 5%, which was the case of pair W with a score difference of 10%. Furthermore, of the 7 cases of pairs with differing scores, 6 cases exist with the higher scoring participant belonging to the Control Group, and 1 case exists with the higher scoring participant belonging to the Experimental Group. This is a result of the randomization of the allocation of individuals to the Groups after being assigned to the matched pair, and while it was random, the result of the random assignment yields a very similar Control and Experimental Group, setting a level baseline such that the post-treatment comparison of the groups' results will more reliable than if the groups were not so similar.



*Figure 32: Matched Pairs by TOEIC ® Scores*

#### **D. Description of the Experimental and Control Groups**

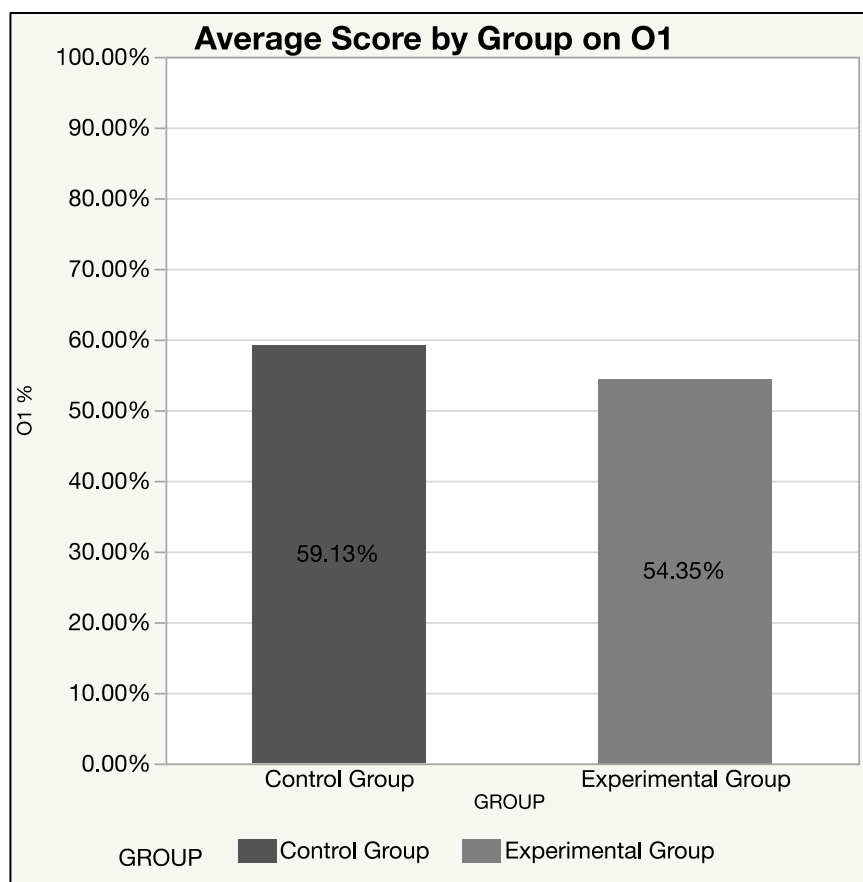
Now that the results of the TOEIC ®, which was used to create the groups, have been explained, a brief description of the groups in comparison to one another shall be provided. The demographic makeup of each group is displayed in Table 13.

	<b>Experimental Group</b>	<b>Control Group</b>
<b>Number of participants (N)</b>	23	23
<b>NATO Officers</b>	12	16
<b>NATO Non-Officers</b>	11	7
<b>Average Age</b>	39.1	36.7

*Table 13: Description of Experimental and Control Groups*

#### **E. Pre and Post Observations**

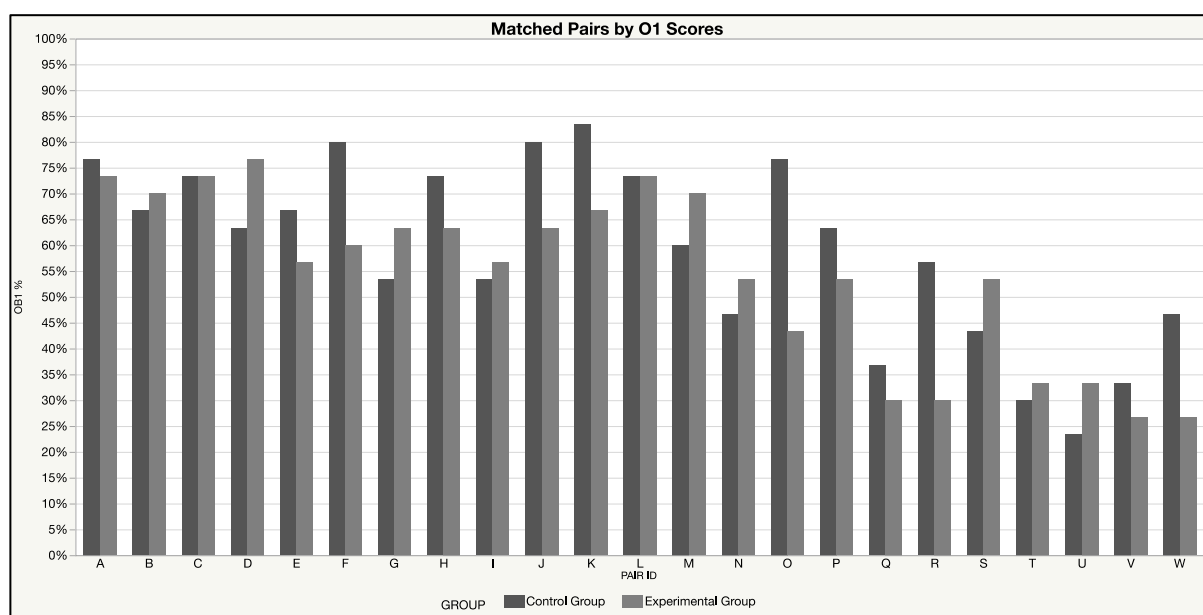
After matched pairs were formed and the random allocation of each member of the pair to either the Experimental or Control Group was carried out, all participants were given the pre-treatment test in the form of the radio listening comprehension tests described in the Instrumentation section of Chapter 3, represented in Figure 26 as O<sub>1</sub>. The averages of the results from the pre-treatment test by group are displayed graphically in Figure 33. As shown, the Control Group outperformed the Experimental Group with a difference in average score of 4.78 percentage points based on the average scores of 59.13% and 54.35% respectively. The scores from this observation are the baseline scores that will be used for follow-on comparison of the post-treatment observation scores.



*Figure 33: Average Score by Group on O<sub>1</sub>*

Interestingly, the scores from this assessment, when arranged by matched pair, show differences in the scores between the pairs that are somewhat surprising. Given the fact that no treatment has been applied to either of the groups at this point, the most logical assumption would be that, like the scores from the TOEIC ®, the scores on this first listening observation should be comparable to Figure 32 when ordered by matched pair. The expectation is that the scores for the pairs would either be exactly the same or within a maximum difference of 10%, as they are for the TEOIC ® comparison by pair. However, upon examination of the scores arranged by pair, the results are not as closely comparable. These results can be seen in Figure 34.





*Figure 34: Matched Pairs by O<sub>1</sub> Scores*

Upon closer examination of these seemingly disparate scores, we can see that in only two cases, pairs C and L, were the scores exactly the same. In the other 21 pairs, 12 pairs showed higher scores by the member assigned to the Control Group, while in the case of the remaining 9 pairs, the member assigned to the Experimental Group scored higher. The average difference between pairs was 11.3%, while the greatest was 33.3%. One explanation for this significant difference is the fact that the style of the TOEIC ® is much more familiar for language learners, given its traditional style of assessment, namely multiple-choice questions based on listening shot listening passages. However, the radio listening comprehension assessments used for the pre and post-test observations in this study are likely more unfamiliar. The use of the cloze-style listening comprehension assessment, paired with authentic radio form a combat environment, is likely unfamiliar to most students, potentially causing more anxiety, an affective variable, and resulting in lower performance on this assessment instrument.

The unexpected result observed when the scores from the first radio listening assessment were compared within each pair led to the need for a comparison of the original TOEIC ® scores with those from the first radio listening assessment for each individual participant. In 44 out of the 46 cases, participants consistently scored higher on the TOEIC ® used as the blocking factor. The results of this comparison can be seen in Figure 35. However, in two cases, participant 18 and participant 23 both scored higher on the radio listening assessment than they did on the TOEIC ®. Coincidentally, participant 18 and 23 form pair W, the pair made up of the two lowest scores on the TOEIC ®. This may be caused by the participants' professional experience in familiarity with radio communications, or a result of the participants' relatively low general English language skills as demonstrated on the TOEIC ®. Again, the randomization and the matched pairs design again yields a homogeneity that proves positive for the study. In this case, the only two participants who scored higher on the first radio listening assessment than on the TOEIC ® were coincidentally paired together based on their low score from the TOEIC ®. While not significant, the improvement from the TOEIC ® to the radio listening comprehension test was a difference of 16% for participant 18 and a difference of 6% for participant 23.

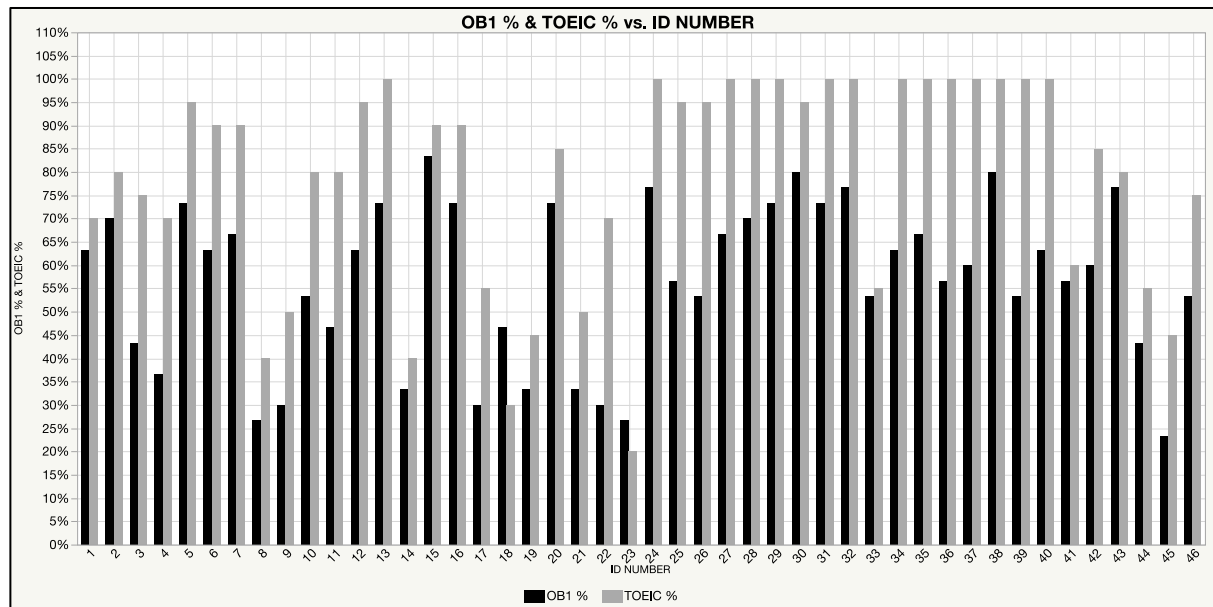


Figure 35:  $O_1$  and TOEIC ® by ID Number

When compared statistically using Pearson's product-moment correlation, there is a strong positive correlation between score on the TOEIC ® and score on  $O_1$ . This information is displayed in Figure 26. The scatterplot matrix shown in the figure displays a strong positive linear relationship between scores on the TOEIC ® and the scores on  $O_1$  as seen inside the ellipsis. The calculation of Pearson's  $r$  came to a value of  $R = 0.7988$ . In this case, although the  $R$ -value is not equal to 1.0, the coefficient is somewhat indicative of a relationship between the two variables and can be classified as strong and positive.

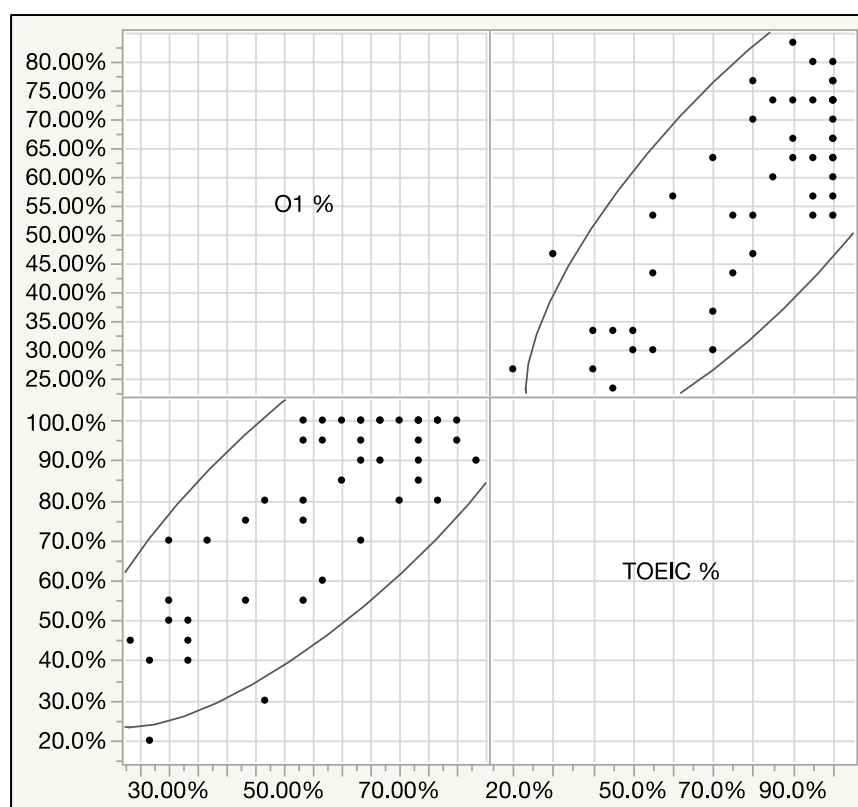
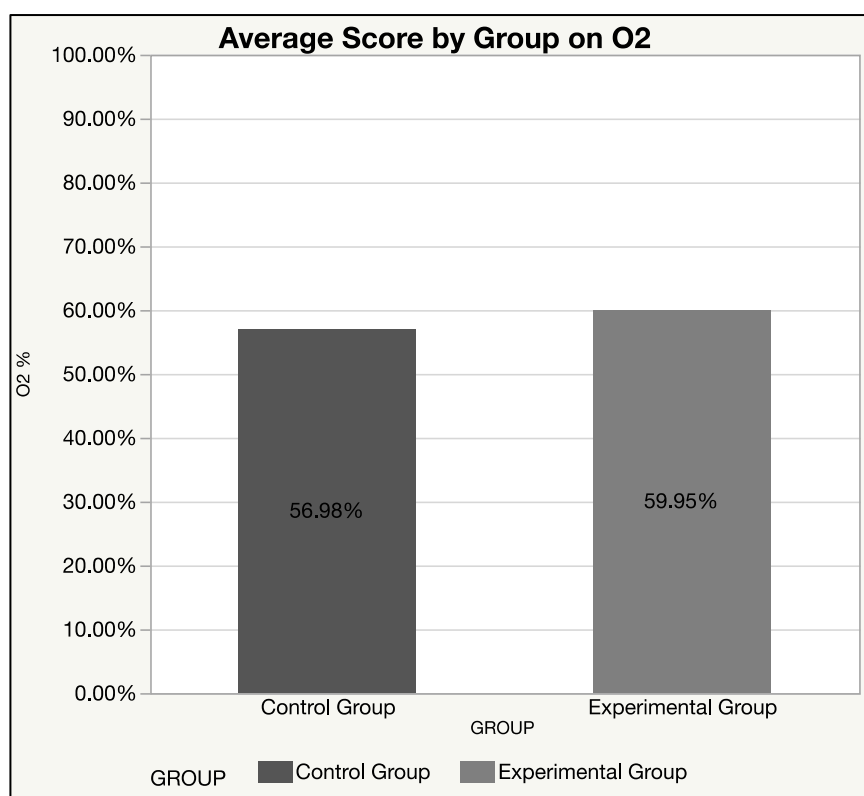


Figure 36: Pearson's Correlation Coefficient – TOEIC ® by  $O_1$

Further analysis of the data will help us to understand these circumstances and they will be taken into account as the pre and post-test data are compared to one another. Furthermore, this information will be an important factor to consider when applying the results of the data analysis to the Research Questions and to the Hypotheses presented.

In accordance with the experimental procedures outlined in Chapter 3, upon completion of the initial observation, each group was given their corresponding treatment. The Control Group carried out the parallel activity, which involved watching subtitled audiovisual material while the Experimental Group was given the experimental treatment of creating subtitles for the audiovisual material. Both the Control Group and the Experimental Group utilized the same audiovisual material for their respective treatments. After each group

received their respective treatment, all participants were given the post-treatment test in the form of the second radio listening comprehension test described in the Instrumentation section of Chapter 3, represented in Figure 26 as O<sub>2</sub>. The average of the results obtained on the post-treatment test by group are shown in Figure 37. As displayed, the Experimental Group outperformed the Control Group with a difference of 2.97 percentage points.



*Figure 37: Average Score by Group on O<sub>2</sub>*

Whereas the Control Group outperformed the Experimental Group on O<sub>1</sub>, in this instance, the Experimental Group's average scores on O<sub>2</sub> were higher. Preliminarily, this is a positive sign that will be further analyzed statistically to see if the results are, in fact, statistically significant. While the analysis of the average scores is potentially indicative of a relationship between the independent variable (the experimental treatment) and the dependent variable (listening comprehension in English via military radio) further statistical analysis must be

conducted and explored in order to determine if this is the case. According to Nunan (1992), even though “the Experimental Group has, on average, outscored the Control Group” it is necessary to “use ‘statistical inference’ to work out whether the scores obtained resulted from students [participants’] really being different, as suggested by the test scores, or whether the difference came about by chance or sampling variation” (p. 27).

#### **F. Data Analysis and Results: Hypotheses 1 and 2**

The data was analyzed utilizing the JMP statistical software package developed by SAS. JMP, pronounced jump, is easy-to-use yet powerful statistical analysis software for experimental design and research. The dataset was created based on the information contained in the online learning management system utilized in the study, Canvas, and was subsequently checked for errors and cleaned prior analysis. No errors were detected. In accordance with Robson’s (2002) point of view that “fancy methods of analysis are no substitute for thought and reasoning when you are trying to understand and interpret your findings”, the first part of this chapter employed simple exploration and summary of the data in order to provide the foundation understanding of the more robust statistical analysis that follows here in the second part of the chapter.

To begin the analysis, the difference of the scores was calculated by subtracting the pre-test score from the post-test score. Taking into account the matched pairs aspect of the experimental design, in order to reject or fail to reject the null hypotheses statistically, we must look at the difference in score from  $O_1$  to  $O_2$ . Figure 38 displays a comparison of each matched pair and the scores obtained on the post-test observation,  $O_2$ . Overall, in 14 out of the 23 pairs the member of the pair assigned to the Experimental Group scored higher on  $O_2$  than the member assigned to the Control Group. The opposite was the case in 9 out of the 23 pairs. Once again, while not yet analyzed statistically, this information continues to support the Hypotheses proposed.

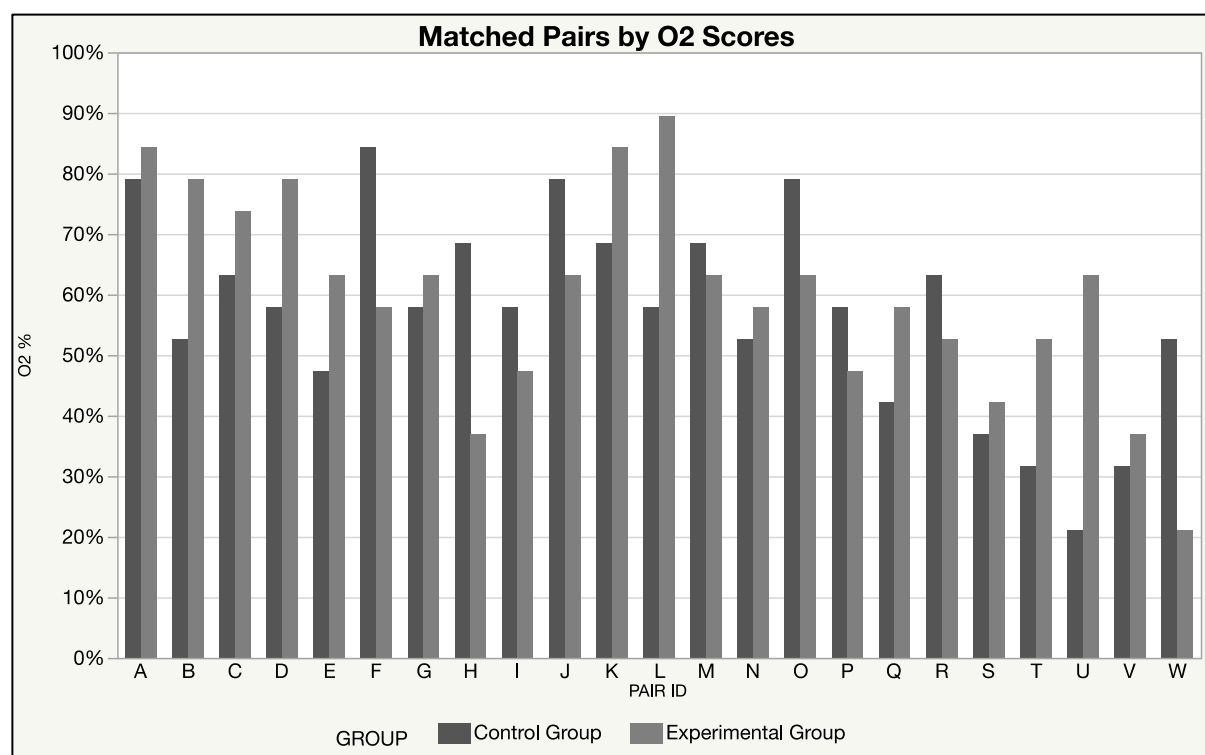
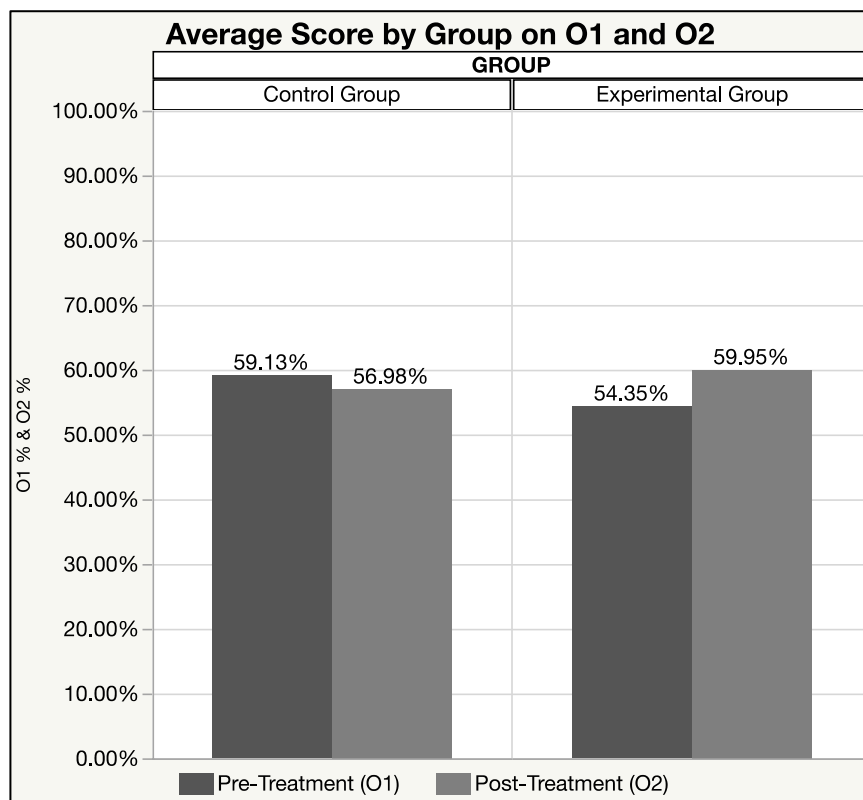


Figure 38: Matched Pairs by O2 Scores

The average score improvement for the 23 individuals in the control group was -2.15 percentage points while the average score improvement for the 23 individuals in the experimental group was 5.61 percentage points. The analysis indicated that this was a statistical significance difference in score improvement between the groups ( $p = 0.0316$ ). Analysis of the model residuals indicated that no assumptions were violated (constant variance, normality of residuals). Figure 39 highlights the increase in average scores obtained from pre to post-test observation,  $O_1$  and  $O_2$ , by group. Overall, we can see that the Control Group's average score decreased from 59.13% to 56.98% - a difference of 2.15 percentage points, while the Experimental Group's average score increased from 54.35% to 59.95% - a difference of 5.6 percentage points. Upon calculation of the percent increase, this comes to a

10.3% increase in average score by the Experimental Group and a 3.64% decrease in average score of the Control Group.



*Figure 39: Average Score by Group on  $O_1$  and  $O_2$*

When comparing the Control Group and the Experimental Group's average scores on  $O_2$ , we find the Experimental Group's average score of 59.95% to be 3.97 percentage points higher than that of the Control Group's average score of 56.98%. Upon calculating the percent increase, we find the Experimental Group's average score to be 5.2124% higher than that of the Control Group.

Given two groups, homogenized on the dependent variable, this information clearly shows that the Experimental Group, which received the intervention (subtitling task), performed better than the Control Group on the radio listening comprehension tests. Because of the effect of the random sampling that resulted in nearly identical Control and



Experimental groups, as displayed in Figure 30, and the controls of the dependent variable that were implemented, the data supports Hypothesis 1 – “The Experimental Group’s scores on military radio-based listening comprehension assessments will be higher than those of the Control Group as a result of the subtitling task.”

With respect to Hypothesis 2 – “The Control Group’s scores on military radio-based listening comprehension assessments may increase as a result of viewing subtitled audiovisual material”, the data clearly shows that this is not the case, as the Control Group’s scores decreased as a result of the parallel activity (viewing subtitled audiovisual material) by 2.15 percentage points, a 3.64% decrease. However, in order to understand if this information can be extended beyond the sample to the population, we must test these hypotheses statistically.

As it relates to research Hypothesis 1, for this statistical analysis the dependent variable (DV) is further defined as the score on the radio listening comprehension test, while the independent variable is further defined as the experimental treatment, or subtitling task. With respect to research Hypothesis 1, the null hypothesis ( $H_0$ ) states that the independent variable (subtitling task) has no effect on the DV (score on radio listening comprehension test). The alternative hypothesis ( $H_A$ ) states that the independent variable has a positive effect on the DV. In terms of the null hypothesis we can state that the mean scores on the radio listening comprehension tests for the Experimental and Control Group are the same in the population. In terms of the alternative hypothesis we can state that the mean scores on the radio listening comprehension tests for the Experimental and Control Group are not the same in the population.

Analysis of variance (ANOVA) was conducted to test if there was a difference in score improvement between the control group and the experimental group, while accounting for the matched pairs. The analysis indicated that this was a statistical significance difference

in score improvement between the groups ( $p = 0.0316$ ). Figure 40 displays the average score improvement for both groups with standard error bars. Furthermore, analysis of the model residuals indicated that no assumptions were violated (constant variance, normality of residuals), as shown in Appendix J.

Just as in the case of the sample under study, the results of this analysis are positive for the population. Given the statistical significance of the difference in performance between the Control Group and the Experimental Group (the  $p$ -value), the null hypothesis can be rejected and the alternative hypothesis can be accepted. In other words, we can confidently state that the independent variable has a positive effect on the dependent variable; thus, the subtitling task has a positive effect on the scores on radio listening comprehension tests.

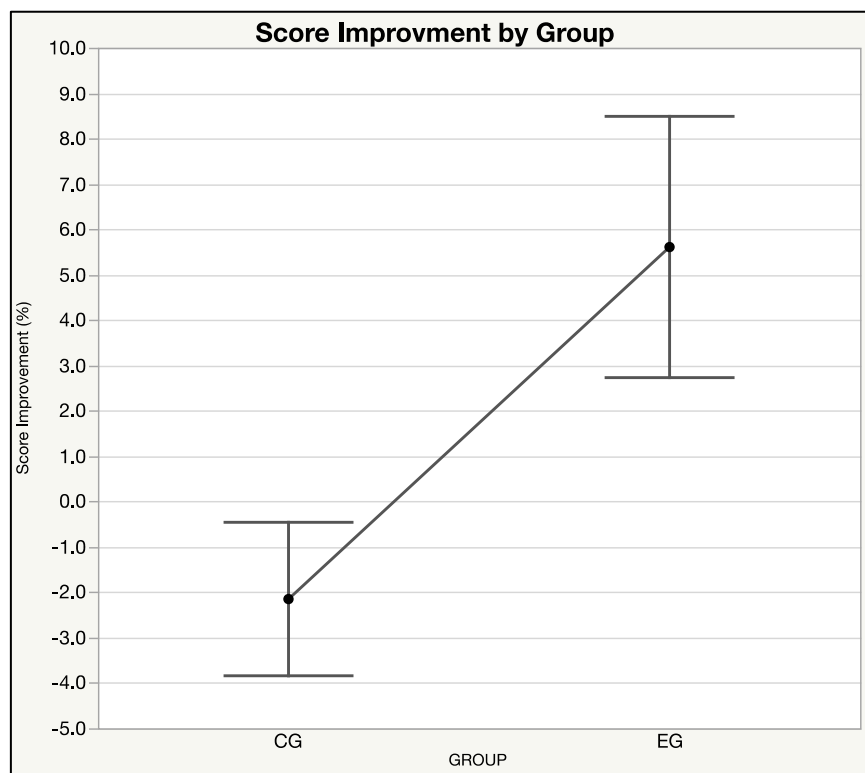
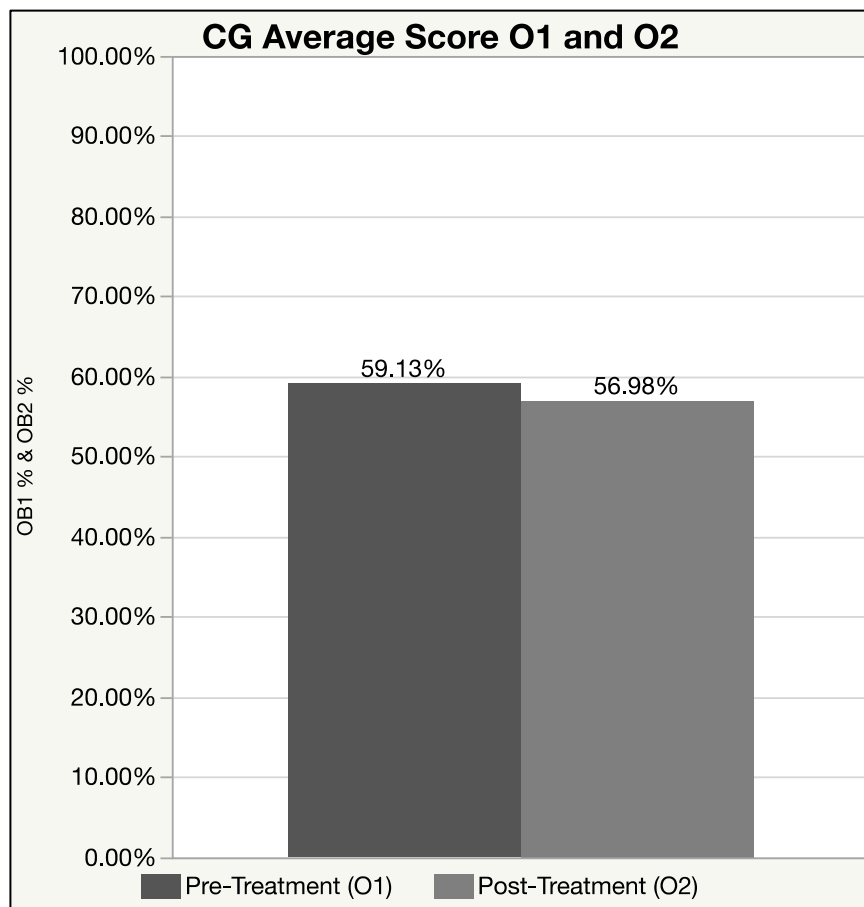


Figure 40: Score Improvement by Group

With respect to research Hypothesis 2, the null hypothesis ( $H_0$ ) states that the independent variable (viewing subtitled audiovisual material) has no effect on the DV (score on radio listening comprehension test). The alternative hypothesis ( $H_A$ ) states that the independent variable has a positive effect on the DV. Again, in terms of the null hypothesis we can state that the mean scores on the radio listening comprehension tests for the Control Group do not increase in the population. In terms of the alternative hypothesis we can state that the mean scores on the radio listening comprehension tests for the Control Group increase in the population. Unfortunately, given the decrease in the Control Group's average score from Pre-Treatment to Post-Treatment as shown in Figure 41, a decrease of 3.64%, in the case of this sample, Hypothesis 2 cannot be accepted. That is, the null hypothesis cannot be rejected.

However, in order to determine how this may relate to the larger population, a one-sample t-test was performed to test the null hypothesis that the Control Group's scores did not change their scores as a result of viewing subtitled audiovisual material. The analysis indicated that there was not a statistical significance difference in score improvement between the groups ( $p = 0.8916$ ). As with Hypothesis 1, analysis of the model residuals indicated that no assumptions were violated (constant variance, normality of residuals). Therefore, we cannot say that the population would necessarily increase their scores on military radio-based listening comprehension assessments as a result of viewing the subtitled audiovisual material.

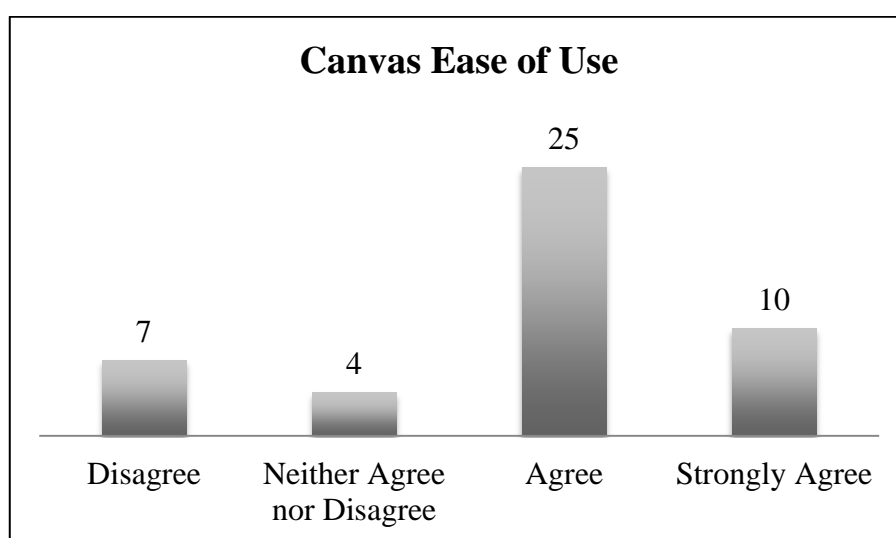


*Figure 41: Control Group Average Score  $O_1$  and  $O_2$*

### **G. Data Analysis and Results: Hypothesis 3**

This section deals specifically with the information collected from the end-of-course survey as detailed in the Instrumentation section of Chapter 3. The presentation of this data and the analysis will help to deal with the third Hypothesis (To what extent does the use of an online learning management system support subtitling as a task for learners of English for the military?). The survey data that was collected will be used to gather the opinions of the participants for anecdotal conclusions. Overall, the feedback received was generally positive regarding all aspects of the study.

As discussed in Chapter 3, there were specific questions for the Experimental Group and the Control Group dealing with the ease of use of the Canvas platform and the ease of use of the Amara subtitling system. Regarding the use of the Canvas online learning management system,  $n = 46$ , as both groups were given questions regarding the system. This survey question was phrased “The online Canvas platform was easy to use” and participants were given five Likert-scale options from Strongly Disagree to Strongly Agree, ranked from 1 to 5 with 5 being Strongly Agree. Overall, the participants informed that they agreed with the statement regarding online learning management system’s ease of use. The results are displayed in Figure 42. 76.09% of participants responded to Agree or Strongly Agree with the statement regarding the ease of use of the Canvas system.



*Figure 42: Canvas Ease of Use*

Although the survey data may report that the participants’ general attitude toward the online learning management system were positive, it would be interesting to see if there exists any correlation to the positive responses with respect to the other variables, specifically age, NATO rank, and their listening comprehension level as reported by the score on the blocking

factor instrument, the TOEIC ®. In order to analyze the potential relationship between these variables, Pearson's  $r$  was calculated to compare participant response to each variable. The results of this calculation can be seen in Table 14. In the case of Age and NATO Rank, there is only a weak relationship between the participants' reported agreement with the statement "The online Canvas platform was easy to use". However, in the case of the relationship between the TOEIC ® and the reported opinion toward ease of use of the Canvas system, in accordance with Cohen (1988) it can be considered that there exists a strong positive correlation between these two variables, where  $R = 0.7262$ .

	<b>TOEIC %</b>	<b>AGE</b>	<b>NATO Rank</b>
Canvas Ease of Use	0.7262	-0.2848	0.1940

*Table 14: Correlation Coefficient - Canvas, NATO Rank, Age, TOEIC ® Score*

Another interesting point is to consider whether or not the opinions of the two groups were similar, given the fact that both groups utilized the Canvas system for the entirety of the study. As shown in Figure 43, 69.57% of the participants in the Experimental Group primarily responded that the Canvas platform was easy to use with the "Agree" option, coded as a value of 4 in this graph for reasons of analysis with the JMP software. Comparatively, 39.13% of participants from the Control Group responded, "Agree" while 34.78% responded "Strongly Agree", coded as a value of 5.

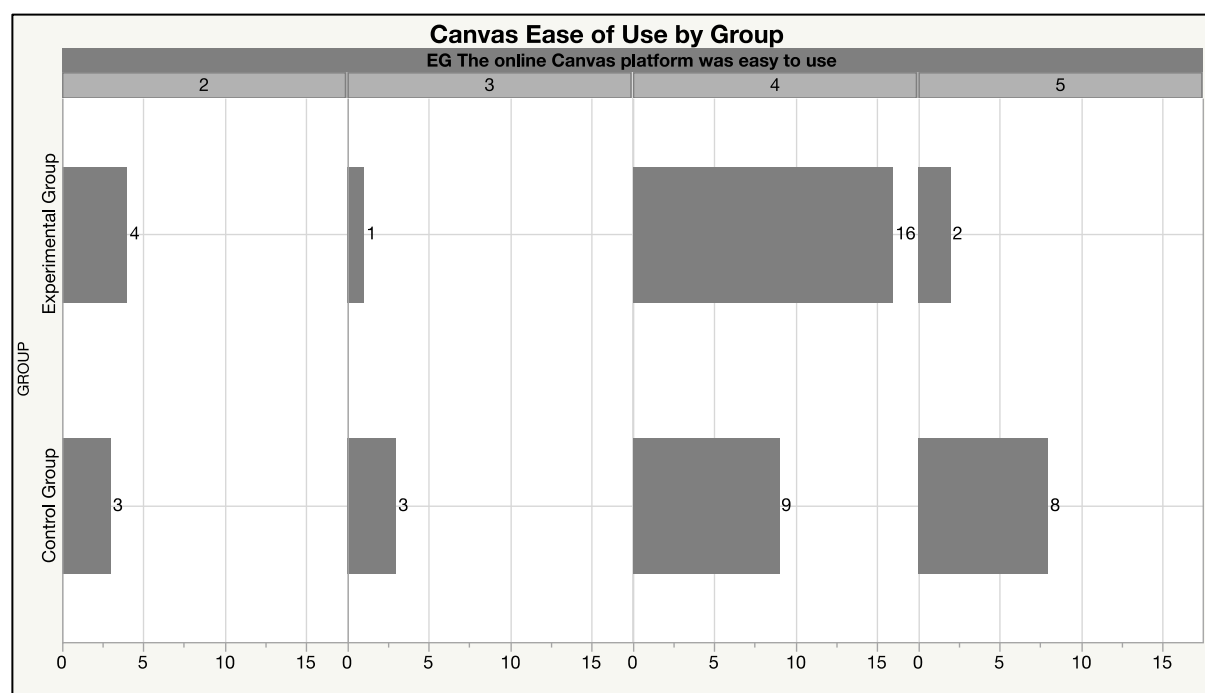
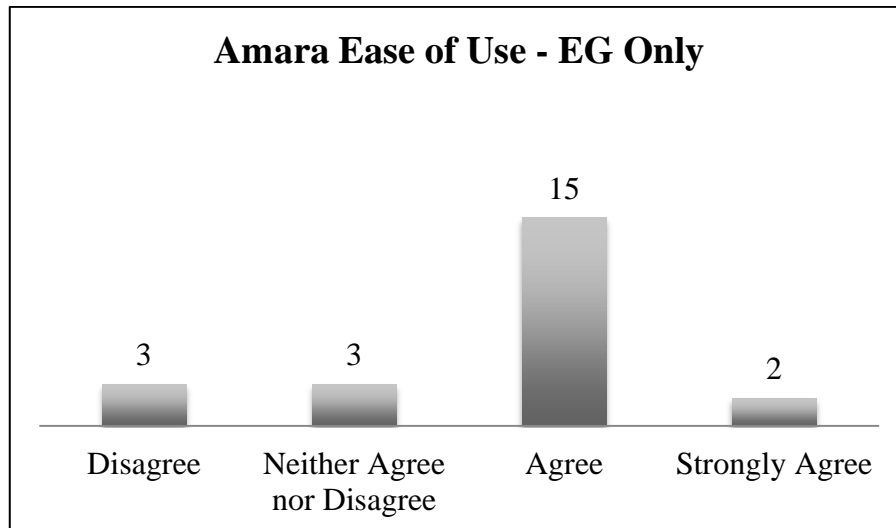


Figure 43: Canvas Ease of Use by Group

While the members of the Control Group exclusively used Canvas, curiously, the participants assigned to the Experimental Group also utilized the Amara subtitling platform to carry out their task. However, this platform was accessed through the Canvas system and had the appearance of being seamlessly integrated into Canvas, such that participants may not have even realized it was a separate platform. Therefore, with respect to the use of the Amara platform for subtitling, members of the Experimental Group generally informed that they agree with the statement “The Amara platform was easy to use”. That is, 17 of the 23 participants, or 73.91%, assigned to the Experimental Group responded that they either Agreed or Strongly Agreed with the statement. While this survey data is nothing more than anecdotal as reported by the participants, the information is helpful in determining the overall

attitude of the participants toward the use of the online subtitling system, which was generally positive.



*Figure 44: Amara Ease of Use - EG Only*

While the opinions provided by the participants assigned to the Experimental Group are positive, given the range in age of the members of the Group (25 – 57 years of age), there may be a correlation between the response to this question and the age of the participants. In order to determine if this is the case, which would be interesting information for this study, the Pearson's  $r$  was calculated for the two variables. Surprisingly, the result of the calculation showed that there was only a moderate negative correlation between age and level of agreement to the Amara ease of use statement ( $R = -0.3041$ ). While there is no linear relationship as per the calculation, it is interesting that the results of the *Pearson's  $r$*  calculation were negative.



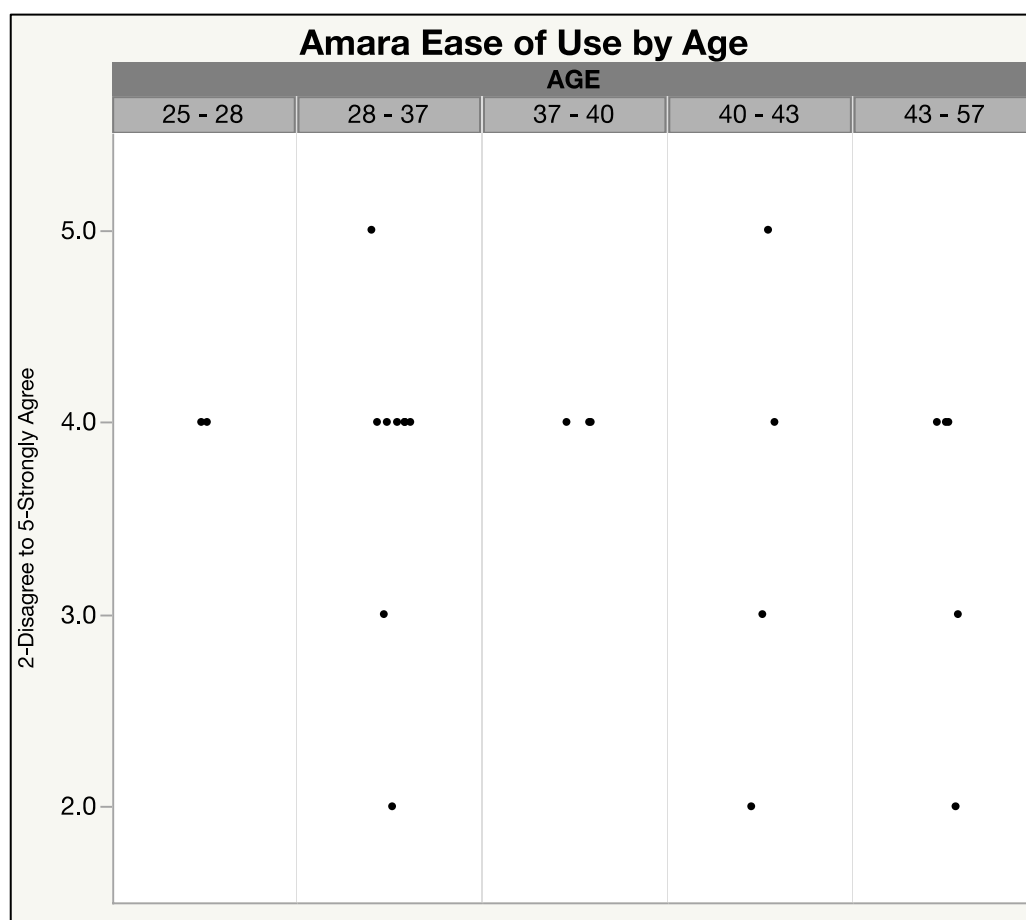
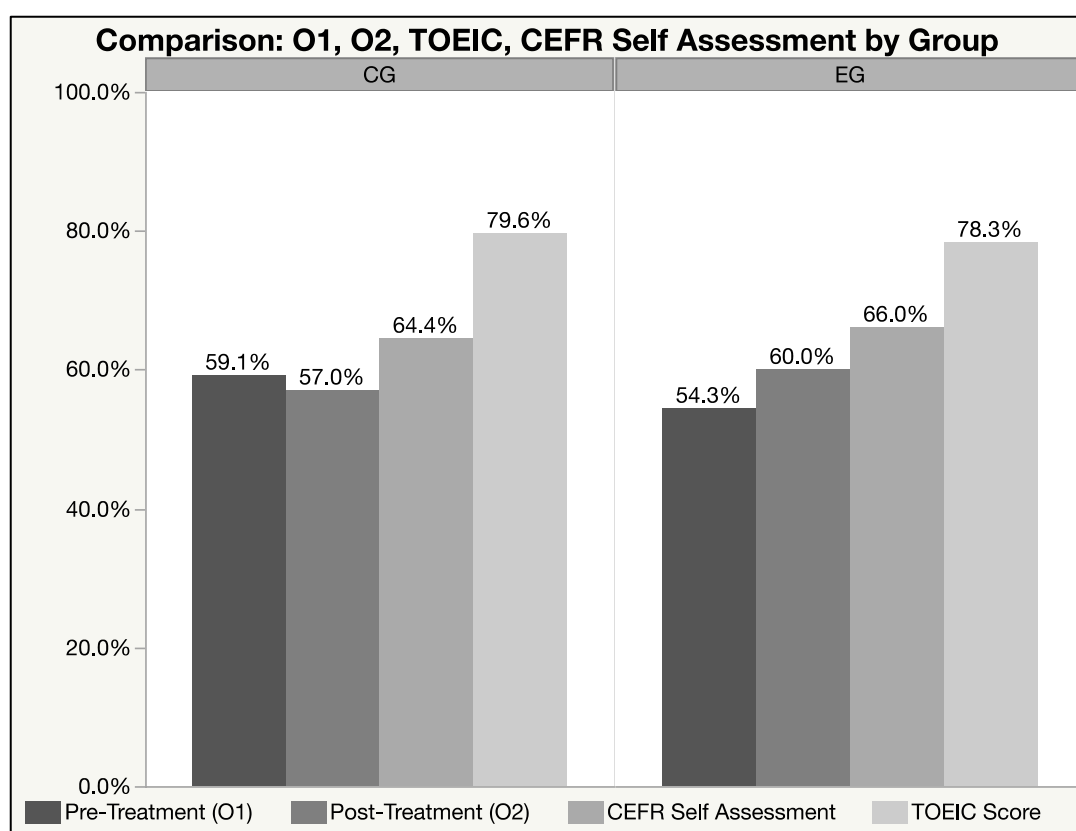


Figure 45: Amara Ease of Use by Age

In Figure 45, we can see that the responses are broken down by age range, and the responses, ranked 2 (Disagree) to 5 (Strongly Agree), are shown. It is interesting to observe that the lower ratings were not confined to the higher age ranges, as one might assume. In fact, according to Olson, O'Brien, Rogers, & Charness (2011), "Older adults do use technologies similar to their younger counterparts, but perhaps at different usage rates" (p. 1). While this survey data is only an example, this could be one of the reasons that the Amara ease of use statement was not necessarily scored lower relative to a higher age.

## H. Listening Comprehension Self-Assessment

All participants were given the opportunity to self-assess their listening comprehension skills on the end-of-course survey. This information was averaged and compared to the average results of the TOEIC ®, and the pre-treatment and post-treatment radio listening comprehension tests. As shown in Figure 46, the averages between the Control and Experimental Groups for the CEFR Self-Assessment and the TOIEC ® scores, as previously discussed, are very similar, with only a 1.6 difference in percentage points from CG to EG on the CEFR Self-Assessment. Furthermore, when comparing the CEFR Self-Assessment with the performance on the TOEIC ®, there is a large discrepancy between performance and self-assessed level. According to this survey, the participants in the study performed higher than they rated their listening comprehension skills in accordance with the CEFR.



*Figure 46: Comparison of O1, O2, TOEIC, and CEFR Assessments*

## **I. Summary**

With regard to the Hypothesis 1, “The Experimental Group’s scores on military radio-based listening comprehension assessments will be higher than those of the Control Group as a result of the subtitling task”, the data analysis allows us to reject the null hypothesis, asserting that the subtitling intervention had a positive effect on the participants’ scores on the radio listening comprehension tests. However, based on the analysis conducted with respect to Hypothesis 2, “The Control Group’s scores on military radio-based listening comprehension assessments may increase as a result of viewing subtitled audiovisual material”, the analysis does not allow us to reject the null hypothesis, as the scores on the radio listening comprehension assessments did not improve as a result of viewing subtitled audiovisual material. Lastly, keeping in mind that the information from the survey data is not generalizable to the population, the findings from the data are generally positive with respect to the use of the Canvas learning management system and the Amara subtitling platform. Overall, participants either chose to “Agree” or “Strongly Agree” with the positive statements regarding the use of these systems.

As a whole, the results of the study are overwhelmingly positive. Given the unique nature of the context of the study, conducted without face-to-face interaction, the self-guided and autonomous nature of the course yielded data that was able to be analyzed within the design of the experiment to show that the use of this intervention, in this case, increased listening comprehension skills via military radio. Furthermore, the positive results are encouraging with respect to the specificity of the English language under study. This novel approach to utilizing the subtitling task within this context is altogether affirming for further study in this area. Lastly, the general optimistic feedback given by participants regarding the use of the online systems provides a solid foundation for follow-up research within this area and the application of learning via subtitling for non-translators in the future.



## **V. Chapter 5: Final Conclusions and Further Research**

### **A. Introduction**

This chapter includes the application of the data analysis to the Research Questions as well as the implications of the findings within the field. Each Research Question is handled separately and the implications of the application to each are presented. Next, the findings are applied to the current state of the art of the literature in the field and suggestions for future lines of research are presented.

In order to frame the discussion properly, it is important to put it within the context of the problem statement. As explained in Chapter 1, after multiple years of conflict in Afghanistan and the ISAF and NATO intervention, it was determined that there was a need for the NATO advisory team members to increase their military vocabulary and communication skills via military radio. As a result, the Tactical Communications English Workshop was created at the Partner Language Training Center Europe of the George C. Marshall European Center for Security Studies. This two-week workshop focused on vocabulary and skills for improved communication via military radio. However, due to the limited availability of resources, not all members of the advisory teams were able to take advantage of this face-to-face training. Therefore, taking advantage of the preliminary research conducted by Lertola, 2012; Neves, 2004; Sokoli, 2006; Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011; Williams & Thorne, 2000, the present study proposed the use of the subtitling task as a technique to increase communication skills, namely listening comprehension, via military radio.

The purpose of this study was to test the effect of subtitling as a learner task on listening comprehension by comparing subtitling as a learner task and the viewing of subtitled audiovisual material to listening comprehension via military radio. The research study participants, native Spanish-speaking English language learners from the Spanish

armed forces, took part in the study by enrolling in an online course via an online learning management system, Canvas. Participants were blocked on the TOEIC ® and randomly assigned to either the Experimental or Control Group. All participants were given the pre-treatment radio-based listening comprehension test, followed by the experimental treatment for members of the Experimental Group, and a parallel treatment for members of the Control Group. Finally, a post-treatment radio-based listening comprehension test was given and the data obtained from the results were analyzed. Furthermore, participants were given a brief end-of-course survey to provide their own feedback and attitudes toward the online learning management system and the use of the online subtitling platform.

This study is also fundamentally different from the preceding studies that have been carried out to study the task of subtitling for language acquisition ends. While most other studies have dealt with general language learning, this study focuses on the English for Specific Purposes (ESP) context of military English. Given that context, the population under investigation also differs from that of other studies. As general language learning would be for all kinds of learners, in most cases military English would be for members of the armed forces or professionals in the defense or public safety realm. Lastly, while all other studies related to subtitles as a task for language learners have been carried out in the traditional, face-to-face dynamic of instruction, this study moves forward with the current trends in technology and education by implementing the entirety of the study online via an online learning management system accessed via the Internet, not only as a way of innovating in line with current technological tendencies in education, but also as an aspect of the study itself. The present study builds upon similar studies executed in a traditional classroom setting and transforms them to a digital setting, while at the same time analyzing the viability of carrying out this language instruction technique over the Internet.

## **B. Discussion**

### **1. Research Question 1**

This study was designed to test the use of subtitling as a learner task on listening comprehension skills via military radio. The underlying theoretical framework provided a solid foundation for the study, based on Communicative Language Teaching (CLT), English for Specific Purposes (ESP), Task-Based Language Teaching (TBLT), Listening Comprehension theory, Online Learning theory, and Audiovisual Translation (AVT). As a result of the subtitling intervention, the Experimental Group's scores on military radio-based listening comprehension assessments increased by 10.3% from the pre-treatment observation to the post-treatment observation. Given the experimental design, to include the random assignment of participants to the groups based on the blocking factor, the controls in place are such that this significant 10.3% increase in scores can be attributed to the intervention under study – the subtitling task. Therefore, with respect to Research Question 1, “To what extent do scores on military radio-based listening comprehension assessments increase as a result of the subtitling task for learners of English for the military,” the data analysis presented in Chapter 4 fully supports the rejection of the null hypothesis and the acceptance of the alternative hypothesis without violating any statistical assumptions. For the sample and the population under study, the experimental treatment of the subtitling task supported the score increase on listening comprehension assessments.

The study took advantage of authentic material in the form of NATO-released videos from Afghanistan and U.S.-released videos from Iraq to implement the subtitling task via an online learning management system. This model provided a low-cost alternative to face-to-face classes, and utilized open-source materials, including the online management system as well as the videos and the subtitling platform, demonstrating that the intervention under study is not only viable as a tool for increasing listening comprehension and communication by

military radio, but also that the online mode of delivery is equally viable, from both a cost and a management perspective. The overwhelmingly positive findings not only indicate that the technique of subtitling as a learner task increase radio-based listening comprehension skills in learners of English for the military, but again, they support the innovation employed by carrying out this language teaching technique in a digital setting through an online learning management system.

Building on the previous studies carried out with respect to subtitling as a learner task, the results from the present study continue to add to the current literature and to future pedagogical decisions that can be made regarding the use of this language teaching technique. Not only was subtitling shown to be an effective strategy for increasing listening comprehension skills for general language learning (Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011, 2013), but the present study adds that this technique is viable for ESP purposes as well, specifically as listening comprehension relates to radio communication skills within the context of the profession of the armed forces and those of public health and safety.

## **2. Research Question 2**

While the study's primary foundation was based on the use of subtitling as a learner task, the secondary hypothesis was based on Research Question 2, "To what extent do scores on military radio-based listening comprehension assessments increase as a result of viewing subtitled audiovisual material by learners of English for the military". Because the Control Group was to receive a secondary, parallel treatment which consisted of viewing subtitled audiovisual material, the hypothesis that their scores may also increase as a result was based primarily on existing research (such as that by (Koolstra & Beentjes, 1999; Markham, 1989; Neuman & Koskinen, 1990; Price, 1983; Vanderplank, 1988, 1990, 1999)). This research notwithstanding, in the case of the present study the data did not support the rejection of the



null hypothesis and therefore the answer to the research question is that the scores on military radio-based listening comprehension assessments did not increase as a result of viewing subtitled audiovisual materials assigned to the Control Group. As reported in Chapter 4, the scores decreased by 2.15 percentage points, a 3.64% decrease from pre-treatment to post-treatment assessment.

While there may be several explanations for this decrease, one of the most logical may be the related to the idea of cognitive load (Sweller, 1988, 1994) with respect to the Dual-Coding Theory (Paivio, 1990) and the Cognitive Theory of Multimedia Learning (Mayer, 2005). Cognitive load deals with the capacity of the working memory and the mental exertion required to process information stored there. Dual-coding theory is simply the idea that input comes via two separate channels, one for verbal and another for non-verbal input, and that this input is then processed by separate systems in the brain for each type. In language-teaching application, this could be exemplified by teaching new vocabulary words either with pictures and the written words together versus either the word or the picture alone. The dual-coding theory supports the idea of utilizing subtitled audiovisual material in language learning, but Mayer's Cognitive Theory of Multimedia Learning challenges this idea under certain circumstances. The basic Cognitive Theory of Multimedia Learning relies on the ideas there are two main channels for processing information (aural and visual) and that we have a limited capacity for processing this information. According to Mayer's theory, "in the process of trying to build connections between words and pictures, learners are able to create a deeper understanding than from words or pictures alone" (Mayer, 2005, p. 5).

While the use of subtitles may be supported by the Cognitive Theory of Multimedia Learning and the multimedia principle, this violates the so-called redundancy principle as reported by Clark and Mayer (2016): "when the instructional message includes graphics, explain the graphics with narration alone [...] do not add redundant on-screen text" (2016, p.

68). However, although it may violate this principle, adding subtitles of the narration may prove to be helpful for students who are not native speakers of the language as “helping students learn in a second language may be a special case” (Clark & Mayer, 2016, p. 68). This point of view supports the idea of viewing subtitled audiovisual material for increased comprehension. Why, then, may this not have been the case for the present study? After all, so many other researchers have reported positive results in this case. According to a 2014 study conducted by Lee, Mayer, and Peebles, “adding subtitles to fast-paced video narrated in English did not help non-native English speakers” (as cited in Clark & Mayer, 2016, p. 68). Because of the nature of the authentic audiovisual material used in this study, the videos were very fast-paced. The specific video utilized for the Control Group’s parallel activity consisted of a rate of speech of approximately 190 words per minute. Given this and in accordance with Clark and Mayer (2016), “apparently, when the video is fast-paced, redundant printed and spoken text can cause cognitive overload, even for non-native speakers” (Clark & Mayer, 2016, p. 68). This fast-paced video utilized by the Control Group may provide an explanation for the results with respect to Research Question 2 and Hypothesis 2. Perhaps if a different video with a slower speech rate had been utilized, the results might have been more aligned with those obtained in the aforementioned foundational studies carried out by other researchers.

Although the null hypothesis could not be rejected in the case of the present study, the use of subtitled audiovisual material to increase listening comprehension skills does have merit and further study is absolutely necessary. Moreover, this technique should continue to be investigated in terms of online delivery via a learning management system. Implementing this technique while incorporating the principles proposed by Clark and Mayer (2016) regarding e-learning and multimedia learning theory is of particular interest. Not only can this technique continue to be used for general language learning, but further research into the

utility of subtitled audiovisual material in the languages for specific purposes context is also in order.

### **3. Research Question 3**

Research Questions 1 and 2 are questions that are specific to the Dependent Variable, listening comprehension via military radio. As a result, the decisions made during the experimental design focused mostly on answering these two Research Questions. However, at the same time, Research Question 3 is aimed at providing information related to the Independent Variable, the use of the online learning management system. Research Question 3 asks, “To what extent does the use of an online learning management system support subtitling as a task for learners of English for the military?”

Based on this Research Question, the researcher presented a hypothesis that “the Experimental Group will inform that the learning management system supports subtitling as a task for learners of English for the military”, defined as Hypothesis 3. As discussed in the Instrumentation section of Chapter 3, the data was obtained via Experimental Group participant survey completion at the end of the experimental procedure utilizing Likert-style questions and level of agreement with the statements. Based on the data analysis conducted and presented in detail in Chapter 4, the Experimental Group overwhelmingly provided positive feedback related to the use of both the Canvas online learning management system and the Amara subtitling platform for carrying out the subtitling intervention.

As mentioned previously, this study is the first of its kind to take advantage of an online platform for this type of experiment involving subtitling as a learner task for listening comprehension improvement. These positive results are quite encouraging, given the novelty of this investigation and the further unique nature of the military context. These positive evaluations may be a result of participant familiarity and comfort with similar information technology systems given their military careers, which tend to utilize various systems for

managing such information related to personnel, logistics, benefits, training, and education, to name but a few. Perhaps these participants felt comfortable with accessing webpages and utilizing web-based training because this is a requirement of their careers and thus, the novelty of the experiment was nothing more than routine.

However, whatever the reason may be, this information is encouraging for further study within both the fields of military English, but also outside of the context under study here. Implementing a subtitling task for learners of general English, English for Specific Purposes (ESP), as well as within other language learning and other language for specific purposes contexts deserves further study related to its feasibility and viability. Taking advantage of advances in technology, paired with the ever-presence of digital devices in our society, taking this technique online is a way to further engage learners on their terms, utilizing a medium with which they are already familiar, comfortable, and in some cases even proficient. With respect to Krashen's (1982) affective filter hypothesis, utilizing familiar platforms for delivering content and implementing techniques may be a way of lowering the affective filter and increasing language acquisition, for example.

As it relates to Research Question 3 and Hypothesis 3, the findings confirm that the use of a learning management system indeed supports subtitling as a task for learners of English for the military, as reported on the end of course surveys by research participants. Given the qualitative nature of these findings, the statistical analysis of these responses cannot be applied in the same manner as those from Research Questions 1 and 2. However, the positive feedback obtained serves as foundational research for further study, providing a solid base for designing and carrying out more experiments within the realm of action research to learn more about the use of online learning management systems and subtitling as a learner task.

### **C. Implications**

The findings of this study fully support the subtitling task as an intervention for language learners along with the implementation via online learning management system. While further research is called for and is absolutely necessary, the findings from this study, in addition to those from previous research, can be used to support practitioners in the field of language education to begin to incorporate these techniques into their instructional practices and curricula. Furthermore, practitioners are called upon to continue to undertake action research within their own educational contexts to continue to contribute to the state of the art, shaping language-teaching methodology in their own environment and in the larger language education community.

Not only are the results of the study positive with respect to general English language learning, but also the findings support the use of subtitling as a learner task for both Languages for Specific Purposes (LSP) contexts as well as the use of subtitling as a learner task for languages other than English. While this study was not designed to provide generalizable results to other languages within the context of listening comprehension via radio, the promising outcomes obtained from this study absolutely can be used to support practitioners to implement the subtitling intervention and evaluate the results. There is a definite need for further, broader research within this specific area, under both similar and unique circumstances, in order for these practices to be evaluated when extended to the larger community and to continue to take advantage of technology and multimedia material for language-learning ends.

In addition to the positive results obtained from testing the subtitling intervention as it relates to listening comprehension, it is important to highlight the other positive outcomes that are a result of subtitling as a task in this study. The use of task-based language teaching and online learning, as is done in this study, encourages learners to be autonomous and to

take responsibility for their own learning. Without a face-to-face teacher and student interaction, learners must find it within themselves to be accountable for completing the learning modules and tasks necessary for the course. In this study, learners demonstrated this discipline and responsibility by duly completing the modules on their own time within the established time limits. As demonstrated in this study, the use of the subtitling task when delivered by an online learning management system is not only beneficial for language acquisition purposes, but also for general skills that are necessary for learners to continue to develop, such as autonomous learning and independence.

#### **D. Recommendations for Future Research**

This study, albeit defined to a limited population, sets the foundation for further research on the use of subtitling as a task for learners of English, especially for those fields of English for Specific Purposes (ESP) that involve communication by radio and telephone, to include audiovisual communication such as videoconferencing. Furthermore, this present study opens the door for much-needed additional research on the use of an online learning management system to implement the language teaching technique of subtitling as a task for language learners.

This study stemmed from a realistic need, as determined by NATO, to increase advisory team member's communication skills via radio. This real-world application was the impetus for action research and, in accordance with Nunan (1992), the results are to be disseminated to the community. The positive results obtained from this study, the first of its kind regarding delivery method and context, lay a solid framework for further study within the realm of ESP and online course delivery for this type of task. Not only should this study be replicated within the larger population of other NATO member-countries, but also within other organizations dedicated to public safety and security within both the NATO community and the world.

This intervention should be studied for use with pilots and air traffic controllers, maritime professionals, as well as emergency services such as police, fire, and emergency medical teams. All of these occupations require the use of communication via radio and/or telephone, and many times in English, a language other than the native language. For example, the United Nations' International Civil Aviation Organization (ICAO) has very specific standards for the use of English by air traffic control personnel and pilots alike. According to the ICAO Resolution A/38A,

ICAO introduced language provisions to ensure that air traffic personnel and pilots are proficient in conducting and comprehending radiotelephony communications in the English language, including requirements that the English language shall be available on request at all stations on the ground serving designated airports and routes used by international air services (ICAO, 2013, p. 1).

This Resolution urges Member States to implement these standards and also directs Member States to take advantage of the ICAO Aviation English Language Test Service (AELTS) in order to verify language capabilities. Furthermore, highlighting that the Resolution recognizes that “some Member States encounter considerable difficulties in implementing the language proficiency requirements including the establishment of language training” (p. 1), subtitling as a task for learners when delivered via an online learning management system (either new or integrated with an existing system) within this context could serve as an efficient, low-cost model for Member States to begin to reach the ICAO standards.

Another example of an area of further research includes professions in public safety, such as police, firefighters, and emergency medical services. Similar to the context of the

present study, the international community often works together for support and advising missions to countries working hard to develop their infrastructure and public services. One such example is that of EUPOL (European Union Police Mission). EUPOL has conducted missions in the former Yugoslav Republic of Macedonia, the Democratic Republic of the Congo, Bosnia and Herzegovina, in Afghanistan, Kosovo, and the Palestinian Territories. These missions, which take place in various cultural and linguistic contexts, often require international communication in English, and frequently via radio and telephone.

Similarly, the use of subtitling as a learner task has also been applied to language learning for languages other than English. Lertola (2012) conducted a study “on the effects of the subtitling task on incidental vocabulary acquisition” (p. 1) for students of Italian as a foreign language. The specific radio-based context of the present study could also be used in other language-learning applications. An example of such application would be to use the subtitling task as a technique in teaching Spanish to learners for specific purposes. Given the increase in the Spanish-speaking population in the United States, for example, this task could be used for public safety professionals, such as police, firefighters, and emergency medical technicians in the United States in order to improve their Spanish language skills via telephone and radio. According to the Spanish Cervantes Institute (2015), as of 2015 there were over 41 million native and 11.6 million bilingual Spanish speakers in the United States. Likewise, the report states that by the year 2050, the United States will be the country with the most number of Spanish speakers in the world. As a consequence, the need for professionals in the public safety sector, for example, to be able to accurately communicate via telephone and radio in Spanish will most assuredly increase, and one of the ways to prepare for this increasing need could be to implement subtitling as a task for these professionals to improve their skills in this way.



One of the most challenging aspects of the study will most surely be one that can be of greatest benefit for future research: the online nature of the course and the research project as a whole. Because the study was designed to specifically examine the use of subtitling as a task by non-translators, compounded with the lack of a face-to-face opportunity for hands-on support with the subtitling software, there were many significant challenges when dealing with the research participants and their unfamiliarity with the online systems.

Although the Amara system is one of the greatest online subtitling platforms in terms of professional user interface, popularity, and philanthropic interest, the integration with the Canvas online learning management system is incommensurate and does not provide truly seamless integration for all aspects of task development, launch, and evaluation that is necessary for this intervention to continue to be implemented and tested by language professionals in the field. Given the increase in distance and online education, MOOCs, and the like, in order for subtitling as a learner task to be properly leveraged, it must be a technique that is easy for both the learner as well as the instructor. With the plethora of new resources at the disposal of language education professionals these days, it is hard to make a case for an intervention that, regardless of its potential success, creates more work for the instructor than potential benefit.

It is important to look at this from the point of view of the language education professional as well, and to take into consideration what they themselves utilize for their own professional development and language maintenance. In a 2012 survey conducted of 32 professional language educators surveyed from the Official Language Schools in Andalusia, Spain, 26 claimed to use subtitled audiovisual material for their own personal language learning and maintenance. Regarding audiovisual translation, only 9 of the 32 participants claimed to utilize either the creation of subtitles, translation of existing subtitles, and/or dubbing for personal improvement and maintenance. Furthermore, when asked specifically

about their own capabilities, participants generally reported that they do not know how to use subtitling software, where only 6 of 32 claimed any ability whatsoever (Campbell, 2012).

Keeping this information in mind, in order to promote professional language educators' use of subtitling as a learner task, the software must be easy to use and the tasks must be easy to create. In the present study, the Amara online subtitling platform was used. While Amara's user interface and controls are simple, streamlined, and seemingly familiar, the task development and design is extremely time consuming and requires more than basic technical skills. If language education professionals are going to be convinced to implement subtitling as a task into their instruction, the implementation thereof cannot be cause for stress, anxiety, or technical headaches.

Therefore, one of the most important outcomes of this study is the information obtained regarding the ease of use of the online learning management system paired with the challenges that arose in designing the subtitling task. Participants generally informed that the online learning management system was easy to use. Therefore, as more and more education and training is moving to an online format, there is a desperate need for a platform to be designed specifically for subtitling as a learner task that will integrate seamlessly into modern learning management systems, such as Blackboard, Moodle, and ConnectEDU. Of utmost importance is that this platform be 100% web-based, requiring no software to be downloaded, and ideally with the capability to be viewed on either mobile site or mobile application formats as well.

Similar to the Learning via Subtitling software that was developed by Hellenic Open University's Laboratory of Educational Material (Sokoli, 2006), the platform must take into account the task development and delivery from the point of view of the instructor. Tasks must be easy to create, easy to publish for delivery to students, and easy to mark, correct, score, and provide feedback. Furthermore, the platform should be designed specifically for

use by non-translators, meaning that the robust capabilities of professional subtitling software could be decreased in favor of a more simple, familiar user interface, like that of Amara. The tasks should be self-contained so that all aspects of the task are stored within a single unit, whether it be a specific file extension or specific type of modular file folder. This will allow for ease of sharing between courses within an online learning management system, as well as between instructors across networks.

In addition to the use of the subtitling task for language learners, the implementation of the task and task creation could be used for professional development of language teaching professionals as well. As with all educators, content knowledge of the subject they teach is of paramount importance. According to the National Council for Accreditation of Teacher Education (2008) “Candidates preparing to work in schools as teachers or other school professionals know and demonstrate the content knowledge, pedagogical content knowledge and skills [...] necessary to help all students learn” (2008, p. 16). Not only is this content knowledge necessary for initial educator licensing, but continuing professional development requires that those individuals in the field of education continue to learn over the course of their teaching careers to remain current in their subject areas and with the developments in their fields. Regarding language education, foreign-language attrition may be the result of a lack of use or a lack of maintenance in the foreign language. Given that one of the standards of the National Board for Professional Teaching Standards ® in the United States is that “teachers know the subjects they teach and how to teach those subjects to students” (2002, p. 3) professional development in foreign-language skills is of paramount importance for language teaching professionals throughout their career.

Given this, it is important to recognize that language teachers are also language learners, and just as the use of the subtitling task can be utilized to increase language skills for what we consider to be traditional language learners, so too can this technique be utilized

for professional development purposes for language instructor-learners. Depending on the context of language instruction, taking advantage of authentic material, defined as “those written and oral communications produced by members of a language and culture group for members of the same language and culture group” (Galloway, 1998, p. 133), may be one of the few opportunities for language professionals to keep in contact with the target language. Whereas ESL is English taught to non-native speakers in a place where English is commonly spoken, this is not the case for many professionals where the language they teach is not the language spoken and used in the place they teach. In these cases, keeping in contact with the target language is difficult and there is a need for authentic input. Taking advantage of the benefits of subtitling as a learner task may be one way that language teachers are able to utilize authentic material in order to maintain and improve their content knowledge of the languages they teach.

Furthermore, the subtitling task can be beneficial for teachers to not only develop their content language knowledge, but also to develop their technical skills when developing these tasks for their learners. Given the technical nature of subtitling, there are certain technical skills required to successfully carry out a subtitling task. On top of that, there are even more technical skills that are required for the creation and distribution of a subtitling task for language learners, be it via internal computer lab desktop management software or via an online learning management system, as was the case in the present study. These skills, which range from basic computer skills to software-specific skills, are such that they are easily transferrable to other areas, serving the language education professional in various ways. Nowadays, the use of information management systems has permeated the education industry at all levels, from pre-school to post-secondary, corporate training, and professional development. While educators will likely have a varying degree of computer skills, the subtitling task also serves as a way to further implement and develop these skills, building on

what has already been learned and adding to their toolkit by contributing to the development of specific subtitling and subtitling software related skills.

### **E. Final Thoughts**

This study has shown that the technique of subtitling as a learner task for those learners of military English with regard to listening comprehension has great promise. Furthermore, given the nature of the use of the English language in international military, peacekeeping, security, public health, and safety realms, the importance of innovative and effective language instruction techniques cannot be denied. The first of its kind, the study took advantage of previously conducted research on the use of the subtitling task for language learning, and built upon it by applying the theoretical premise of prior studies within a unique context. The online nature and ESP setting of this study provides insight into the alternative uses of this technique while at the same time contributing to the available knowledge on the topic as a whole. While this study provided undeniably positive findings and conclusions, the quest for further information on the use of this technique must not end here. Further research is necessary in order to continue to contribute to the state of the art of the literature regarding the intersection of audiovisual translation and language learning. In addition, we should also continue to inquire and learn about the use of this technique within other categories of language learning, different linguistic combinations, and different delivery methods.

With this technique, especially when employed through an online learning management system, individuals are able to improve their listening comprehension skills from the comfort of wherever they may find themselves, along with an Internet connection and a device. As the impetus for the present study, this means that in the absence of resources for face-to-face training, members of NATO armed forces could still receive the beneficial and mission-essential language training that they so desperately need, which may easily

translate into better communication amongst coalition partners on the battlefield, higher rates of mission accomplishment, decreased rates of combat casualties, and an overall improvement to NATO missions abroad.

The opportunities to exploit audiovisual translation and audiovisual materials for language learning purposes are endless. Researchers are called upon to carry out further research and inquiry relating to this promising technique that has the potential to significantly impact the way in which language learning takes place.



## VI. Summary in Spanish

### A. Capítulo 1: Introducción

Esta investigación ofrece nuevas aplicaciones sobre el uso de la traducción audiovisual como tarea dentro del marco del aprendizaje basado en tareas y el efecto que esta tiene en la comprensión auditiva. Además, intenta ampliar la limitada información y literatura académica relacionadas con el uso de la subtitulación como herramienta en el aprendizaje de idiomas para los alumnos que no son traductores, específicamente dentro del contexto del inglés para los militares o del inglés para las fuerzas de seguridad. Por otra parte, dentro del área del inglés para fines específicos, y más concretamente el inglés para lo militar, su objetivo era proporcionar una base para futuras investigaciones dentro de ese contexto para el uso de material audiovisual subtitulado (tanto interlingüístico como intralingüístico) y la traducción audiovisual, así como otros modos de la traducción audiovisual, tales como el doblaje y la audiodescripción. También ofrece una revisión crítica del uso de un sistema de gestión de aprendizaje virtual en cuanto a la facilitación de material audiovisual auténtico, así como la enseñanza y la posterior ejecución de las tareas de subtitulado. El estudio se llevó a cabo dentro de un entorno íntegramente virtual. Todo ello con la intención de crear un impacto positivo en la enseñanza y el aprendizaje de la traducción audiovisual, sobre todo en los programas tradicionales de formación de traductores, proporcionando un modelo de cómo se pueden impartir asignaturas de traducción audiovisual de forma íntegramente virtual, aprovechando las aplicaciones de software disponibles y fomentando el mayor uso de las mismas.



## **1. Preguntas principales de la investigación**

- RQ1. ¿En qué medida mejoran los resultados obtenidos en evaluaciones de comprensión auditiva basados en las radiocomunicaciones militares como resultado de la tarea de subtitulado en estudiantes de inglés para uso militar?
- RQ2. ¿En qué medida mejoran los resultados obtenidos en evaluaciones de comprensión auditiva basados en las radiocomunicaciones militares como resultado de la visualización material audiovisual subtitulado en estudiantes de inglés para uso militar?
- RQ3. ¿En qué medida beneficia un sistema de gestión de aprendizaje virtual la tarea de subtitulado para los estudiantes de inglés para uso militar?

## **B. Capítulo 2: Revisión de la literatura y el marco teórico**

En este capítulo, se presentan en detalle la revisión de la literatura y el marco teórico. La revisión de la literatura ofrece una amplia información sobre las investigaciones existentes y las publicaciones académicas relacionadas con el tema objeto de investigación, y revela la falta de datos que esta investigación intenta paliar. El marco teórico no sólo establece la base teórica sobre la que se construye este estudio, sino que también ofrece una mirada más profunda a cada uno de los principales conceptos y su interrelación.

### **1. Revisión de la literatura**

Desde mediados de la década de 1970, investigadores como Dollerup (1974) han estudiado los posibles usos y efectos de material audiovisual subtitulado en el aprendizaje de idiomas. La mayoría de los estudios, sin embargo, se han centrado principalmente en el uso de material audiovisual ya subtitulado (Bird & Williams, 2002; Danan, 2004; Garza, 1991; Neuman y Koskinen, 1990; Vanderplank, 2010). A pesar de que un comunicado de prensa de la Comisión Europea declaró que "la subtitulación es una herramienta espectacular para ayudar a la gente a aprender idiomas con facilidad y placer"[traducción mía] (Europa Press Releases, 2007, p. 2), es importante mencionar que en 2009 se señaló que "la investigación

sobre el subtitulado como medio para el aprendizaje de idiomas es casi inexistente" (Williams y Thorne, 2000, p. 218). Por otra parte, Vanderplank (2010) añade que "ha habido pocos informes sobre el valor de la subtitulación de programas como una ayuda para el desarrollo de conocimientos y habilidades de idiomas" [traducción mía] (p. 17). Desde entonces, se han llevado a cabo estudios significativos (como los realizados por: Lertola, 2012; Neves, 2004; Sokoli, 2006; Talaván Zanón, 2006, 2007, 2009, 2010a, 2010b, 2011; Williams y Thorne, 2000) con respecto a la subtitulación como tarea para el aprendizaje de idiomas. El capítulo termina con una revisión de dichos estudios y se presenta un análisis crítico de los mismos.

## **2. Marco teórico**

En esta sección del capítulo se identifica, describe y explica el punto de vista a través del cual se ha concebido este estudio. Como se destacó en el capítulo 1, al igual que la base multidisciplinar del enfoque comunicativo (*Communicative Language Teaching*, o CLT), el presente estudio se fundamenta en varios conceptos relacionados entre sí. Estos conceptos son: CLT, inglés para fines específicos (*English for Specific Purposes*, o ESP), el aprendizaje de idiomas basado en tareas (*Task-based Language Teaching*, o TBLT), la comprensión auditiva, la teoría del aprendizaje virtual y la traducción audiovisual (TAV). Las teorías para cada uno de estos conceptos se identifican y se describen posteriormente, detallando las formas en que cada uno de los conceptos generales se relacionan entre sí dentro del contexto del estudio. Esta sección comienza con una breve descripción de dos hipótesis sobre la adquisición de segundas lenguas (*Second Language Acquisition*, o SLA) y una descripción de cómo se aplican al presente estudio, y continúa con una descripción más detallada de CLT e inglés para fines específicos. A continuación, ESP se enmarca y se aplica al aprendizaje de idiomas basado en tareas (TBLT), revisando su teoría de una forma exhaustiva. Por último, se revisan y explican: el "qué" (la comprensión auditiva), el "dónde" (la teoría del aprendizaje

virtual), y el "cómo" (la traducción audiovisual), a medida que se relacionan entre sí y con este estudio.

### **C. Capítulo 3: Metodología**

En este capítulo se detalla la manera en que el estudio ha sido diseñado y llevado a cabo. El propósito de este estudio fue evaluar la subtitulación como tarea para mejorar la comprensión auditiva a través de la comunicación por radio militar dentro del contexto de inglés para fines específicos e inglés para uso militar cuando se lleva a cabo a través de un sistema de gestión de aprendizaje virtual. Las siguientes secciones proporcionan información clara y detallada sobre los participantes y la toma de muestras, el diseño y la manipulación experimental, los procedimientos experimentales, instrumentos, fiabilidad y validez de los datos, así como de las limitaciones del estudio. Este estudio es un tipo de investigación emergente conocido como la investigación-acción, y esto se debe tener en cuenta con respecto a este capítulo, especialmente en lo que se refiere al diseño de la investigación. La investigación-acción, específicamente en el campo de la educación, se caracteriza por la investigación que se concibe, se planifica y se lleva a cabo por los actores involucrados en el campo, en lugar de personas ajenas a la organización o al campo. En la práctica, la investigación-acción permite a un profesor de idiomas llevar a cabo la investigación *por sí mismo, en su propio entorno*, basada en una mejora deseada o un problema identificado, y requiere una identificación de la mejora o del problema, la realización de una investigación inicial, la formulación de una hipótesis, probando diferentes formas de 'tratar' el problema, el análisis de los resultados, el intercambio de los resultados y la implementación del cambio (Nunan, 1992, p. 4).

#### **D. Capítulo 4: Análisis y discusión**

El capítulo de análisis y discusión comienza con una descripción de las características demográficas de la muestra. A continuación, se proporciona la descripción de datos siguiendo el modelo de los procedimientos experimentales como se indica en el capítulo 3. Por último, se proporciona la metodología básica de análisis de datos, se presentan los resultados, y el capítulo concluye con una exposición de las implicaciones de los resultados, ya que se relacionan con las hipótesis propuestas.

Los resultados del estudio muestran que la puntuación media obtenida en las evaluaciones de comprensión auditiva basado en las radiocomunicaciones militares del grupo experimental en la medición posterior al tratamiento es de 59,95%, siendo unos 3,97 puntos porcentuales superior a la de la puntuación media del grupo de control, siendo tan solo 56,98%. Al calcular el porcentaje de incremento, vemos una puntuación media del grupo experimental en un 5,21% mayor que la del grupo de control. Dados dos grupos, homogeneizados por la variable dependiente, esta información muestra claramente que el grupo experimental, que recibió la intervención (tarea del subtítulo), mejoró más que el grupo de control en las pruebas basadas en las radiocomunicaciones militares. Debido al efecto de la toma de muestras al azar que resultó en un grupo de control y un grupo experimental casi idénticos, y las medidas empleadas para controlar el variable dependiente, los datos apoyan la hipótesis 1: “las puntuaciones del grupo experimental en las evaluaciones de comprensión auditiva basadas en las radiocomunicaciones militares serán más altos que los del grupo de control como resultado de la tarea de subtítulo”.

En cuanto a la segunda pregunta de investigación, el análisis indicó que no había una diferencia de relevancia estadística en la mejora de puntuación entre los grupos ( $p = 0,8916$ ). Al igual que con la hipótesis 1, el análisis de los residuos del modelo indicó que no se violaron los supuestos (varianza constante, normalidad de los residuos). Por lo tanto, no

podemos afirmar que la población aumentaría necesariamente sus puntuaciones en las evaluaciones de comprensión auditiva basadas en las radiocomunicaciones militares como resultado de la visualización de material audiovisual subtitulado.

#### **E. Capítulo 5: Conclusiones finales y futuras líneas de investigación**

En este capítulo se incluye la aplicación del análisis de datos para las preguntas de investigación, así como las implicaciones de los hallazgos en el campo. Cada pregunta de investigación se analiza por separado y se presentan las implicaciones de la aplicación a cada uno. A continuación, los resultados se aplican al estado actual de la literatura en el campo y se presentan sugerencias para futuras líneas de investigación.



## VII. **Researcher Profile**

After having begun study of the Spanish language in 1999 at age 15, Alan Campbell went on to receive a Bachelor of Arts degree in Spanish Language and Literature and a Master of Arts degree in Second Language Education from Virginia Polytechnic Institute and State University in Blacksburg, Virginia, U.S.A. A distinguished Military Graduate of Virginia Tech's U.S. Army Reserve Officer's Training Corps, he received his commission as a Second Lieutenant in May 2007. Having already successfully completed airborne training and becoming a U.S. Army Paratrooper in 2003, then Lieutenant Campbell attended phase one of the basic officer's leader course at the U.S. Army Infantry School, the Quartermaster basic officer's leader course, and the Aerial Delivery Materiel Officer course, where he became a certified parachute rigger officer. In November 2007 he was assigned as a parachute pack platoon leader with the 824<sup>th</sup> Quartermaster Company at Fort Bragg, North Carolina. Then, in May 2008, Captain Campbell was selected for deployment to Afghanistan as a member of an Embedded Training Team (ETT), the U.S. equivalent to NATO's then OMLT (what is now the MAT/PAT or SFAT). After 3 months of advisor training and intensive language and cultural training at Fort Riley, Kansas, Alan deployed to Kabul, Afghanistan on a 12-member ETT as part of the Combined Joint Task Force Phoenix of the Combined Security Transition Command-Afghanistan where he embedded with the Afghan National Army's largest infantry battalion, Charlie *kandak*, responsible for security of Northern Kabul Province, as the advisor to the battalion logistics officer. Over the course of his deployment, Alan worked hand-in-hand with the Afghan security forces and other NATO coalition partners on the training, mentoring, and advising of the battalion until returning to the U.S. in May of 2009. While deployed to Afghanistan, he was able to see first-hand exactly how critical English language skills were to both the Afghans as well as for ISAF coalition partners for mission accomplishment. Soon after returning home, Captain Campbell

deployed once again, this time to the Middle East as aide-de-camp to the deputy-commanding general of the 1<sup>st</sup> Theatre Sustainment Command. Once again, working with coalition forces, he had the opportunity to experience the importance of English in international operations.

Upon returning, he moved to Spain in 2010 and continued his military service in a staff assistance capacity at the Office of Defense Cooperation in Madrid, primarily as a translator. In 2012 he was assigned to Headquarters, United States European Command (EUCOM) in Stuttgart, Germany as the Army Staff Logistics Officer on the J-4 (logistics) staff. There, he works with logistical Acquisition and Cross-Servicing Agreements between the U.S. Department of Defense and the various ministries of defense within the European area of responsibility. In 2013 he was temporarily assigned to the NATO Counter-Improvised Explosive Devices Centre of Excellence in Madrid, Spain as the staff translator and language services specialist.

In his civilian career, he works for the U.S. State Department as the Consular Agent based in Seville with responsibility for limited consular services within the consular district that covers western Andalusia. He also works as a freelance translator and teacher of English for Specific Purposes, and holds a master's degree in translation and interpreting (2012) from the Universidad Pablo de Olavide, Seville.





## VIII. Works Cited

- Ally, M. (2002). Designing and managing successful online distance education courses. Presented at the The 2002 World Computer Congress, Montreal, Canada.
- Ally, M. (2004). Foundations of Educational Theory for Online Learning. In *Theory and Practice of Online Learning* (p. 5). Athabasca, AB, Canada: Athabasca University.
- Amara.org. (n.d.). Retrieved March 1, 2016, from <https://www.amara.org/en/>
- Anthony, E. M. (1963). Approach, Method, and Technique. *ELT Journal*, XVII(2), 63–67. <http://doi.org/10.1093/elt/XVII.2.63>
- Baltova, I. (1994). The Impact of Video on the Comprehension Skills of Core French Students. *Canadian Modern Language Review*, 50(3), 507–31.
- Bird, S. A., & Williams, J. N. (2002). The effect of bimodal input on implicit and explicit memory: An investigation into the benefits of within-language subtitling. *Applied Psycholinguistics*, 23(04), 509. <http://doi.org/10.1017/S0142716402004022>
- Bloom, B. S. (1956). *Taxonomy of Educational Objectives: The Classification of Educational Goals, Volume I*. New York: D. McKay.
- Borras, I., & Lafayette, R. C. (1994). Effects of Multimedia Courseware Subtitling on the Speaking Performance of College Students of French. *Modern Language Journal*, 78(1), 61–75.
- Brandl, K. (2007). *Communicative Language Teaching in Action: Putting Principles to Work*. Upper Saddle River, NJ: Pearson Prentice Hall.
- British Council. (2009). English- the international language of peacekeeping. Retrieved March 20, 2016, from <https://www.britishcouncil.org/partner/track-record/peacekeeping-english-project>
- Buck, G. (2001). *Assessing Listening*. Cambridge: Cambridge University Press.

- Byram, M., & Hu, A. (2013). *Routledge Encyclopedia of Language Teaching and Learning*.  
S.I.: Taylor & Francis.
- Caimi, A. (2006). Audiovisual translation and language learning: The promotion of  
intralingual subtitles. *The Journal of Specialised Translation*, 6, 85–98.
- Campbell, A. (2012). *From Research to Practice: Language Teachers' Perspectives and use  
of Subtitled Audiovisual Material and Audiovisual Translation*. Seville, Spain:  
Universidad Pablo de Olavide.
- Canale, M., & Swain, M. (1980). Theoretical Bases of Communicative Approaches to  
Second Language Teaching and Testing. *Applied Linguistics*, 1(1), 1–47.  
<http://doi.org/10.1093/applin/I.1.1>
- Chase, W. G., & Simon, H. A. (1973). Perception in chess. *Cognitive Psychology*, 4(1), 55–  
81. [http://doi.org/10.1016/0010-0285\(73\)90004-2](http://doi.org/10.1016/0010-0285(73)90004-2)
- Clark, R. C., & Mayer, R. E. (2016). *e-Learning and the Science of Instruction: Proven  
Guidelines for Consumers and Designers of Multimedia Learning*. Hoboken, NJ:  
Wiley.
- Cognitivism. (2015, June 19). Retrieved from [http://www.learning-  
theories.com/cognitivism.html](http://www.learning-theories.com/cognitivism.html)
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Hillsdale, NJ: L.  
Erlbaum Associates.
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education*. London ;  
New York: Routledge.
- Connectivism (Siemens, Downes). (2015, June 1). Retrieved from [http://www.learning-  
theories.com/connectivism-siemens-downes.html](http://www.learning-theories.com/connectivism-siemens-downes.html)
- Creswell, J. W. (2003). *Research design : qualitative, quantitative, and mixed methods  
approaches*. Thousand Oaks, CA: Sage Publications.

- Crossey, M. (2005). Improving linguistic interoperability. *NATO Review*.
- Crystal, D. (2003). *English as a Global Language*. Cambridge: Cambridge University Press.
- CSTC-A | Resolute Support Mission. (n.d.). Retrieved January 14, 2016, from <http://www.rs.nato.int/subordinate-commands/cstc-a/index.php>
- Danan, M. (2004). Captioning and Subtitling: Undervalued Language Learning Strategies. *Traduction Audiovisuelle / Audiovisual Translation*, 49(1), 67.
- Danan, M. (2010). Dubbing projects for the language learner: a framework for integrating audiovisual translation into task-based instruction. *Computer Assisted Language Learning*, Routledge, 23(5), 441.
- David Nunan. (1991). Communicative Tasks and the Language Curriculum. *TESOL Quarterly*, 25(2), 279 – 295.
- Defense Language Institute English Language Center. (2015). *American Language Course Placement Test HANDBOOK*.
- Díaz Cintas, J. (1995). El subtitulado como técnica docente. *Vida Hispánica*, 12, 10.
- Díaz Cintas, J. (1997). Un ejemplo de explotación de los medios audiovisuales en la didáctica de lenguas extranjeras. In M. C. Cuéllar (Ed.), *Las nuevas tecnologías integradas en la programación didáctica de lenguas extranjeras*. Valencia: Universitat de València.
- Díaz Cintas, J. (2001). Striving for Quality in Subtitling the Role of a Good Dialogue List. *(Multi) Media Translation: Concepts, Practices, and Research*, 199–211.
- Díaz Cintas, J., & Remael, A. (2007). *Audiovisual Translation: Subtitling (Translation Practices Explained, 11)*. Manchester; Kinderhook: St. Jerome.
- DLIELC.edu -ECL Testing. (n.d.). Retrieved January 16, 2016, from [http://www.dlielc.edu/Testing/ecl\\_test.html](http://www.dlielc.edu/Testing/ecl_test.html)
- Dollerup, C. (1974). On subtitles in television programmes. *Babel. Revue Internationale de La Traduction*, XX(4), 197.

- Dudley-Evans, T., & St. John, M. J. (1998). *Developments in ESP: a multi-disciplinary approach*. Cambridge: Cambridge University Press.
- DVIDS - About DVIDS. (n.d.). Retrieved March 4, 2016, from <https://www.dvidshub.net/about#.VtmjWZMrKYU>
- Educational Testing Service. (2012). *TOEIC Examinee Handbook—Listening & Reading*. Princeton, NJ: ETS.
- Ellis, R. (2003). *Task-based Language Learning and Teaching*. Oxford; New York: Oxford University Press.
- Embree, R. (2009). *Mission Related English for Operational Mentor and Liaison Teams*. BILC Conference, Rome, Italy.
- Embree, R. (2012). *Operational Mentor & Liaison Teams based Tactical Communications English: Enhancing Mission Success by Improving Specific Language Skills*. George C. Marshall European Center for Security Studies.
- EUROPA Press Releases. (2007). *A political agenda for multilingualism*. Brussels, Belgium. Retrieved from [http://europa.eu/rapid/press-release\\_MEMO-07-80\\_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-07-80_en.htm?locale=en)
- Europass: European language levels (CEFR). (2004, 2013). Retrieved March 12, 2016, from <https://europass.cedefop.europa.eu/en/resources/european-language-levels-cefr>
- European Commission. (2006). *Special Eurobarometer: Europeans and Their Languages*.
- FCC Consumer and Governmental Affairs Bureau. (2015, November 3). Closed Captioning on Television | Federal Communications Commission. Retrieved February 24, 2016, from <https://www.fcc.gov/node/23883>
- Galloway, V. (1998). Constructing cultural realities: “Facts” and frameworks of association. *The Coming of Age of the Profession*, 129–140.
- Garza, T. J. (1991). Evaluating the Use of Captioned Video Materials in Advanced Foreign Language Learning. *Foreign Language Annals*, 24(3), 239–58.

- George C. Marshall European Center for Security Studies. (2010, March 19). English to support International Security Assistance Force (ISAF). Retrieved July 21, 2013, from <http://www.marshallcenter.org/mcpublicweb/en/nav-main-pltce-elpd-elec-en.html>
- Gottlieb, H. (1994). Subtitling: Diagonal translation. *Perspectives*, 2(1), 101–121.  
<http://doi.org/10.1080/0907676X.1994.9961227>
- Gottlieb, H. (2001). Gottlieb, H. (2001). Texts, translation and subtitling-in theory, and in Denmark. *Translators and Translations*, 149–192.
- Henning, G., Gary, N., & Gary, J. O. (1983). Listening recall—A listening comprehension test for low proficiency learners. *System*, 11(3), 287 – 293.  
[http://doi.org/http://dx.doi.org/10.1016/0346-251X\(83\)90046-5](http://doi.org/http://dx.doi.org/10.1016/0346-251X(83)90046-5)
- Hurtado, A. (1999). *Enseñar a traducir. Metodología en la formación de traductores e intérpretes*. Madrid: Edelsa.
- Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes*. Cambridge: Cambridge University Press.
- Hymes, D. H. :. (1972). On communicative competence. In J. B. Pride & J. Holmes (Eds.), *Sociolinguistics: selected readings* (pp. 269–293). Harmondsworth: Penguin.
- ICAO. Resolution A38/8 – Proficiency in the English language used for radiotelephony communications (2013). Retrieved from <http://www.icao.int/safety/lpr/Documents/A38.8.pdf>
- Instituto Cervantes. (2015). *El español: una lengua viva - informe 2015*. Retrieved from [http://eldiae.es/wp-content/uploads/2015/06/espanol\\_lengua-viva\\_20151.pdf](http://eldiae.es/wp-content/uploads/2015/06/espanol_lengua-viva_20151.pdf)
- Kaiser, M. (2011). New Approaches to Exploiting Film in the Foreign Language Classroom. *L2 Journal*, 3(2).
- Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Pearson Education.

- Koolstra, C. M., & Beentjes, J. W. J. (1999). Children's Vocabulary Acquisition in a Foreign Language through Watching Subtitled Television Programs at Home. *Educational Technology Research and Development*, 47(1), 51–60.
- Kothari, B. (2005, December 12). Same-Language Subtitling on TV for Mass Literacy in India. Retrieved March 20, 2016, from <http://yourstory.in/2011/08/brij-kothari-planetread-same-language-subtitling-on-tv-for-mass-literacy-in-india/>
- Krashen, S. D. (1982). *Principles and practice in second language acquisition*. New York: Pergamon.
- Krashen, S. D. (1985). *The Input Hypothesis: Issues and Implications*. New York: Longman.
- Lertola, J. (2012). The effect of the subtitling task on vocabulary learning. *Translation Research Projects*, 4, 61.
- Luyken, G.-M., Herbst, T., Langham-Brown, J., Reid, H., & Hermann Spinhof. (1991). *Overcoming language barriers in television: dubbing and subtitling for the European audience*. Manchester: European Institute for the Media.
- Malone, T. W. (1981). Toward a theory of intrinsically motivating instruction. *Cognitive Science*, 5(4), 333 – 369. [http://doi.org/http://dx.doi.org/10.1016/S0364-0213\(81\)80017-1](http://doi.org/http://dx.doi.org/10.1016/S0364-0213(81)80017-1)
- Markham, P. L. (1989). The Effects of Captioned Television Videotapes on the Listening Comprehension of Beginning, Intermediate, and Advanced ESL Students. *Educational Technology*, 29(10), 38–41.
- Mayer, R. E. (2005). *The Cambridge Handbook of Multimedia Learning*. Cambridge: Cambridge University Press.
- Media Consulting Group. (2011). *Study on the use of Subtitling the Potential of Subtitling to Encourage Foreign Language Learning and Improve the Mastery of Foreign Languages*. Media Consulting Group.

- Mellor-Clark, S., King, Nicola, Baker de Altamirano, Yvonne, McIlwraith, Hamish, & Walden, Randy. (2012). *Comparison Chart STANAG 6001 Levels – International exams*. Retrieved from <http://www.campaignmilitaryenglish.com/Course/teacher.htm>
- Mission | Resolute Support Mission. (2015, December). Retrieved January 14, 2016, from <http://www.rs.nato.int/mission.html>
- MODLEB. (2005). *Linguapeace Europe STANAG 6001 and CEF Comparison* (pp. 1–37).
- National Board for Professional Teaching Standards. (2002). *What Teachers Should Know and Be Able to Do*.
- National Captioning Institute. (2015). A Brief History of Captioned Television. Retrieved February 24, 2016, from <http://www.ncicap.org/about-us/history-of-closed-captioning/>
- National Council for Accreditation of Teacher Education. (2008). *Professional Standards for the Accreditation of Teacher Preparation Institutions*. Retrieved from <http://www.ncate.org/Portals/0/documents/Standards/NCATE%20Standards%202008.pdf>
- National Standards in Foreign Language Education Project. (1999). *Standards for foreign language learning: preparing for the 21st century*. Lawrence, KS: Allen Press.
- NATO. (2009). NATO's Operational Mentor and Liaison Teams (ONLTs), *October*.
- NATO. (2010). NATO Standardization Agreement: Language Proficiency Skills (STANAG 6001), *Edition 4*.
- NATO. (2012a). Afghan National Security Forces (ANSF): Training and Development. *North Atlantic Treaty Organization Media Backgrounder*.
- NATO. (2012b). Transition to Afghan lead: Inteqal. *North Atlantic Treaty Organization Media Backgrounder*.



- NATO. (2013). Afghan National Security Forces (ANSF): Media Backgrounder. *North Atlantic Treaty Organization Media Backgrounder*.
- Neuman, S. B., & Koskinen, P. (1990). *Using Captioned Television To Improve the Reading Proficiency of Language Minority Students*. Washington, D.C.: The National Captioning Institute.
- Neves, J. (2004). Language awareness through training in subtitling. *Benjamins Translation Library Topics in Audiovisual Translation*, 56, 127.
- Nickels, E. (2013, 30-9/12). ALCPT Request Email.
- Nord, C. (2005). *Text Analysis in Translation: Theory, Methodology, and Didactic Application of a Model for Translation-oriented Text Analysis*. Amsterdam; Atlanta: Rodopi.
- Nunan, D. (1992). *Research Methods in Language Learning*. Cambridge: Cambridge University Press.
- Nunan, D. (2004). *Task-Based Language Teaching*. Cambridge: Cambridge University Press.
- Oller, J. W. (1979). *Language tests at school: a pragmatic approach*. London: Longman.
- Olson, K. E., O'Brien, M. A., Rogers, W. A., & Charness, N. (2011). Diffusion of Technology: Frequency of Use for Younger and Older Adults. *Ageing International*, 36(1), 123–145. <http://doi.org/10.1007/s12126-010-9077-9>
- Paivio, A. (1990). *Mental representations: a dual coding approach*. New York: Oxford University Press.
- Parks, C. (1994). Closed captioned TV: A resource for ESL literacy education. *ERIC Digest*, ED 372 662. Retrieved from [https://archive.org/stream/ERIC\\_ED372662/ERIC\\_ED372662\\_djvu.txt](https://archive.org/stream/ERIC_ED372662/ERIC_ED372662_djvu.txt)
- Participatory Culture Foundation. (n.d.). Retrieved March 1, 2016, from <http://pculture.org/pcf/about/>

- Pavlov, I. P. (1927). *Conditioned Reflexes: An Investigation of the Physiological Activity of the Cerebral Cortex Translated and Edited by G. V. Anrep*. London: Oxford University Press.
- Pérez-González, Luis. (2009). Audiovisual Translation. In *Routledge Encyclopedia of Translation Studies*. London: Routledge.
- Price, K. (1983). Closed-captioned TV: An untapped resource. *MATSOL*, 12(2), 1.
- Richard J. Tannenbaum, & Patricia A. Baron. (2010). *Mapping TOEIC® Test Scores to the STANAG 6001 Language Proficiency Levels* (No. ETS RM-10-11). Princeton, NJ.
- Richards, J. C., Platt, J. T., & Weber, H. (1985). *Longman dictionary of applied linguistics*. Harlow, Essex, England: Longman.
- Ritchie, D. C., & Hoffman, B. (1997). Incorporating instructional design principles with the world wide Web. In *Web-based instruction* (pp. 135–138). Englewood Cliffs, NJ: Educational Technology Publications.
- Robinson, P. C. (1991). *ESP today : a practitioner's guide /*. New York: Prentice Hall International.
- Robson, C. (2002). *Real world research : a resource for social scientists and practitioner-researchers*. Oxford; Madden, MA: Blackwell.
- Savignon, S. J. (2002). *Interpreting Communicative Language Teaching: Contexts and Concerns in Teacher Education*. New Haven, CT: Yale University Press.
- Schäler, Reinhard. (2009). Localization. In *Routledge Encyclopedia of Translation Studies*. London: Routledge.
- Self Destructing IED. (2009, September 14). Retrieved March 1, 2016, from <https://www.dvidshub.net/video/68534/self-destructing-ied>
- Shah, R. (2010, September 19). Watch and learn: How music videos are triggering a literacy boom. *The Boston Globe*. Retrieved from

[http://www.boston.com/bostonglobe/ideas/articles/2010/09/19/watch\\_and\\_learn/?page=1](http://www.boston.com/bostonglobe/ideas/articles/2010/09/19/watch_and_learn/?page=1)

- Shrum, J. L., & Glisan, E. W. (2009). *Teacher's Handbook: Contextualized Language Instruction*. Boston, MA: Heinle Cengage.
- Shuttlesworth, M. (2008, October 3). Definition of Research. Retrieved March 20, 2016, from <https://explorable.com/definition-of-research>
- Siemens, G. (2014). Connectivism: A learning theory for the digital age.
- Skehan, P. (1998). *A Cognitive Approach to Language Learning*. Oxford: Oxford University Press.
- Sokoli, S. (2006). Learning via Subtitling (LvS): A tool for the creation of foreign language learning activities based on film subtitling. Presented at the EU-High-Level Scientific Conference Series: MuTra 2006 – Audiovisual Translation Scenarios: Conference Proceedings.
- Subtitling to learn foreign languages. (2011, May 9). Retrieved January 14, 2016, from <http://www.infonet-ae.eu/articles-european-affairs-27/1211-subtitling-to-learn-foreign-languages>
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257–285.
- Sweller, J. (1994). Cognitive load theory, learning difficulty, and instructional design. *Learning and Instruction*, 4(4), 295–312.
- Talaván Zanón, N. (2006). Using subtitles to enhance foreign language learning. *Porta Linguarum*, 6, 41.
- Talaván Zanón, N. (2007). Learning Vocabulary through Authentic Video and Subtitles. *TESOL Spain Newsletter*, 31, 5.

- Talaván Zanón, N. (2009). Aplicaciones de la Traducción Audiovisual para mejorar la comprensión oral del inglés.
- Talaván Zanón, N. (2010a). Audiovisual translation and foreign language learning: the case of subtitling. *Ways and Modes of Human Communication*.
- Talaván Zanón, N. (2010b). Subtitling as a task and subtitles as support: pedagogical applications. *New Insights into Audiovisual Translation and Media Accessibility*, 285.
- Talaván Zanón, N. (2011). A quasi-esperimental research project on subtitling and foreign language acquisition. *Audiovisual Translation: Subtitles and Subtitling*.
- Talaván Zanón, N. (2013). *La subtitulación en el aprendizaje de lenguas extranjeras*. Barcelona: Octaedro.
- The American Council on the Teaching of Foreign Languages. (2012). ACTFL Performance Descriptors for Language Learners. Retrieved from <http://www.actfl.org/sites/default/files/pdfs/ACTFLPerformance-Descriptors.pdf>
- Thompson, I., & Rubin, J. (1996). Can Strategy Instruction Improve Listening Comprehension? *Foreign Language Annals*, 29(3), 331–42.
- Vanderplank, R. (1988). The value of teletext sub-titles in language learning. *ELT Journal*, 42(4), 272–281. <http://doi.org/10.1093/elt/42.4.272>
- Vanderplank, R. (1990). Paying Attention to the Words: Practical and Theoretical Problems in Watching Television Programmes with Uni-Lingual (CEEFAQ) Sub-titles. *System*, 18(2), 221–34.
- Vanderplank, R. (1999). Global medium – global resource? Perspectives and paradoxes in using authentic broadcast material for teaching and learning English. In C. Gnutzmann (Ed.), *Teaching and learning English as a global language. Native and non-native perspectives* (p. 253). Stauffenberg: Tübingen.

- Vanderplank, R. (2010). "Deja Vu"? A Decade of Research on Language Laboratories, Television and Video in Language Learning. *Language Teaching*, 43(1), 1–37.
- Williams, H., & Thorne, D. (2000). The Value of Teletext Subtitling as a Medium for Language Learning. *System*, 28(2), 217–28.
- Willis, J. (1996). *A Framework for Task-based Learning*. Harlow, Essex: Longman.
- Retrieved from <https://books.google.es/books?id=AXXuAAAAMAAJ>
- Winke, P., Gass, S., & Sydorenko, T. (2010). The Effects of Captioning Videos Used for Foreign Language Listening Activities. *Language Learning & Technology*, v14 n1 p65-86 Feb 2010, 14(1), 65.

IX. Appendices

**Appendix A: Observation 1 – Gap-fill listening test (full text)**

B-roll of Helicopter gun camera video footage released today shows the deliberate steps International Security Assistance Force personnel took when countering the threat of Improvised Explosive Devices (IED) placed by two insurgents Aug. 5 along a road in southern Zabul province, Afghanistan. Scenes include an Attack Weapons Team of helicopters assigned to the 82nd Combat Aviation Brigade of Task Force Pegasus observing and engaging two insurgents emplacing an IED, destroying them and eliminating the threat.

1.

A: I got uh...a guy that was digging in the road right there.

B: Okay, we got two ey, uh, guys digging in the road.

A: Yep, they're trying to hide now.

B: Roger.

2.

A: I, uh, it might be three people, but they're kind of...

B: Roger. Target 5. We're tracking approximately two to three individuals. There's a hot spot on the road. The convoy just passed. It's approximately midnight right now.

3.

A: Yea, roger, sit...SPOT report. Vicinity grid ... spotted two individuals in the middle of route "Chuck". Uh, currently we've got a hotspot, looks like a possible, uh, hole. As soon as the aircraft came on station, two individuals, uh, fled the hole and are now trying to, uh, avoid the aircraft.

B: Tell 'em, they just went past this area, too.

Base: Roger. Can you send that grid again?

4.

A: Uh, it looks like about twenty minutes ago some Strykers just rolled through this area and, uh, it looks like these guys are trying to emplace some IEDs... behind the Strykers

B: You got eyes back on 'em?

Base: Roger. If you could, keep eyes on 'em?

A: Roger. Got eyes on.

5.

Base: Roger. We're checking to make sure it's not an ANA checkpoint or anything right now.

A. Good copy. We've got eyes on. They're not going anywhere. There's plenty of open terrain, so we'll be on station.

Base: Roger that.

6.

A: Alright so go to the hole.

B: Yep, got the hole right here ...

A: Okay ...

B: When we came on station I saw one individual looked like he was digging in the hole. As soon as they heard the helicopters, they – one guy kinda bent down running over to this area here..., uh, where it looked like another indavers...individual was in an over watch position.

7.

Base: Can you see the Strykers?

A: Roger. The Strykers have already passed. They probably passed, I'd say, about 20 minutes ago, so with the TTP, you know, waiting for the vehicles to clear.

Base: Roger, that <<call sign>> 42

8.

A: OK. Good copy on all that. Let me know, did you guys ever get spot, uh, eyes on these individuals?

B: Alright, one individual just stood up.

C: We have eyes on. We have eyes on.

B: Alright, he's sneaking out to the road.

A: Looks like he's tiptoeing out to the road, sneaking. Now he's down in the hole again.

9.

A: Oh, yeah. I'm just gonna see what else he does just to build our case, then we're gonna lead off with hellfire, follow up with 30 millimeter. Left and right break. I'll call out my gun target line.

B: Roger. We have currently have eyes on three individuals, two of them still in the hole, one looks like he's facing to the west, one to the east, and one in the hole.

A: OK, Roger. What we're gonna do is, we're gonna wait 'til he goes back to his buddies and then we'll try to hit 'em all.

B: That's uh, a good copy.



10.

A: Yeah, looks like they got an over watch position, that's where he came from...

B: Be advised, we're gonna engage these individuals. Currently observed one individual, he's back out at the hole right now. Looks like he's placing something ... in there...

A: He's running a wire!

11.

B: We're engaging.

A: Alright.

C: Roger. I back you up and now believe it's an IED emplacement team, got a guy in the hot spot in the road.

Base: Roger. It's on you to get PID, you're cleared to go ahead and shoot.

B: Roger. We have everything we need, these guys are in place, we just watched him run a wire.

Base: Alright, roger that.

**Appendix B: Observation 1 – Gap-fill listening test (cloze text)**

1.

A: I got uh...a guy that was digging in the \_\_\_\_\_ right there.

B: Okay, we got two ey, uh, guys digging in the \_\_\_\_\_.

A: Yep, they're trying to hide now.

B: Roger.

2.

A: I, uh, it might be \_\_\_\_\_ people, but they're kind of...

B: Roger. Target 5. We're tracking approximately two to three \_\_\_\_\_ . There's a hot spot on the road. The convoy just passed. It's approximately \_\_\_\_\_ right now.

3.

A: Yea, roger, sit...SPOT report. Vicinity grid ... spotted two \_\_\_\_\_ in the middle of route "Chuck". Uh, currently we've got a hotspot, looks like a possible, uh, \_\_\_\_\_. As soon as the \_\_\_\_\_ came on station, two individuals, uh, fled the hole and are now trying to, uh, avoid the aircraft.

B: Tell 'em, they just went past this area, too.

Base: Roger. Can you \_\_\_\_\_ that grid again?

4.

A: Uh, it looks like about \_\_\_\_\_ minutes ago some Strykers just rolled through this area and, uh, it looks like these guys are trying to emplace some IEDs... behind the Strykers

B: You got eyes back on 'em?

Base: Roger. If you could, keep eyes on 'em?

A: Roger. Got \_\_\_\_\_ on.

5.

Base: Roger. We're checking to make sure it's not an ANA \_\_\_\_\_ or anything right now.

A: Good copy. We've got eyes on. They're not going anywhere. There's plenty of \_\_\_\_\_ terrain, so we'll be on station.

Base: Roger that.

6.

A: Alright so go to the hole.

B: Yep, got the hole right here ...

A: Okay ...

B: When we came on \_\_\_\_\_ I saw one individual looked like he was digging in the hole. As soon as they heard the \_\_\_\_\_, they – one guy kinda bent down running over to this area here..., uh, where it looked like another indavvers...individual was in an overwatch \_\_\_\_\_.

7.

Base: Can you \_\_\_\_\_ the Strykers?

A: Roger. The Strykers have already passed. They probably passed, I'd say, about twenty minutes ago, so with the TTP, you know, waiting for the \_\_\_\_\_ to clear.

Base: Roger, that <<call sign>> 42

8.

A: OK. Good copy on all that. Let me know, did you guys ever get spot, uh, eyes on these \_\_\_\_\_?

B: Alright, one individual just stood up.

C: We have eyes on. We have eyes on.

B: Alright, he's sneaking out to the \_\_\_\_\_.

A: Looks like he's tiptoeing out to the road, \_\_\_\_\_. Now he's down in the hole again.

9.

A: Oh, yeah. I'm just gonna see what else he does just to build our \_\_\_\_\_, then we're gonna lead off with hellfire, follow up with 30 millimeter. Left and right break. I'll call out my \_\_\_\_\_ target line.

B: Roger. We currently have eyes on \_\_\_\_\_ individuals, two of them still in the hole, one looks like he's facing to the west, one to the east, and one in the \_\_\_\_\_.

A: OK, Roger. What we're gonna do is, we're gonna wait 'til he goes back to his buddies and then we'll try to \_\_\_\_\_ 'em all.

B: That's uh, a good copy.

10.

A: Yeah, looks like they got an overwatch position, that's where he came from...

B: Be advised, we're gonna engage these individuals. Currently observed one individual, he's back out at the hole right now. Looks like he's \_\_\_\_\_ something ... in there...

A: He's running a \_\_\_\_\_!

11.

B: We're engaging.

A: Alright.

C: Roger. I back you up and now believe it's an IED emplacement team, got a guy in the hot spot in the road.

Base: Roger. It's on you to get PID, you're cleared to go ahead and \_\_\_\_\_.

B: Roger. We have everything we need, these guys are in \_\_\_\_\_, we just watched him run a wire.

Base: Alright, roger that.

### **Appendix C: Observation 2 – Gap-fill listening test (full text)**

Coalition forces receive small arms fire and heavy machine gun fire from enemy personnel inside nearby building. Apache helicopters engage building with one Hellfire missile. Apache helicopters receive small arms fire and rocket-propelled grenade fire from enemy personnel in additional structures. Apache helicopters engage second structure with one Hellfire missile. Apache helicopters engage building with Hellfire, rockets, and rounds from 30-millimeter cannon.

And Roger, be advised, they'll try to draw you in and use a Dishka, be careful gents.

Alright turn em.

Confirm you're ready to fire.

Fire first go head.

Fired.

(Sound of missile launching)

Missiles away.

Roger that.

I'll be breaking out to the left

(Sound of gunfire)

Ah Viper Five-Five, Bushmaster White One.

White one, Five-Five - go ahead.

Uh, ah have you uh engaged anything at all yet, over.

Yea roger, put missile into the first house, my aircraft is currently uh....(unintelligable)..if we were hit...

....start engaging putting down on that whole area..

...it's going in...

OK and uh just so we're tracking, you got it at the five-one...going up.

Sir, you got a big box...

Got it, clear to fire.

How Viper Five Five, White One.

White One, Viper Five Five - go ahead.

Roger are you inbound for another run on those two houses, over?

Roger I'm firing....

Roger, spots on.

Go White...

Roger, spots on.

Did you get hit?

That'll work.

They want uh those two houses, the target, uh, they want everything around it destroyed.

I've got the little house.

Roger, spots on.

Roger that, oh and then you see the green house that's shorter there, Chris?

Yes, Sir.

We are gonna go off guns after that . . . foot right on the green houses.

You gotta come on, though. Come on. Put that missile.

Roger, missiles away.

Good shot.

(Unintelligible...then missiles fire....)

Good hit.

OK. We shoot clear and go back.

Bring 'em on.

White one, this is Viper 55....

Keep 'em coming, .... that one's gonna hit, one more.

Last calling station, White One.

White One, Viper Five Five we're uh, .....

**Appendix D: Observation 2 – Gap-fill listening test (cloze text)**

Coalition forces receive small arms fire and heavy machine gun fire from enemy personnel inside nearby building. Apache helicopters engage building with one Hellfire missile. Apache helicopters receive small arms fire and rocket-propelled grenade fire from enemy personnel in additional structures. Apache helicopters engage second structure with one Hellfire missile. Apache helicopters engage building with Hellfire, rockets, and rounds from 30-millimeter cannon.

And Roger, be advised, they'll try to draw you in and use a Dishka, be \_\_\_\_\_ gents.

Alright turn em.

Confirm you're ready to \_\_\_\_\_.

Fire first go ahead.

Fired.

(Sound of missile launching)

\_\_\_\_\_ away.

Roger that.

I'll be breaking out to the \_\_\_\_\_.

(Sound of gunfire)

Ah Viper Five-Five, Bushmaster White One.

White One, Five-Five - go \_\_\_\_\_.

Uh, ah have you uh \_\_\_\_\_ anything at all yet, over.

Yea roger, put \_\_\_\_\_ into the first house, my aircraft is currently uh....(unintelligible)..if we were hit...

....start engaging putting down on that whole area..

...it's going in...

OK and uh just so we're \_\_\_\_\_, you got it at the five-one...going up.

Sir, you got a big box...

Got it, clear to fire.

How Viper Five Five, White One.



White One, Viper Five Five - go ahead.

Roger. Are you \_\_\_\_\_ for another run on those two houses, over?

Roger. I'm \_\_\_\_\_ ....

Roger, spots on.

Go White...

Roger, spots on.

Did you get \_\_\_\_\_?

That'll work.

They want uh those two houses, the target, uh, they want everything around it  
\_\_\_\_\_.

I've got the little \_\_\_\_\_.

Roger, spots on.

Roger that, oh and then you see the \_\_\_\_\_ house that's shorter there, Chris?

Yes, Sir.

We are gonna go off \_\_\_\_\_ after that . . . foot right on the green houses.

You gotta come on, though. Come on. Put that \_\_\_\_\_.

Roger, missiles \_\_\_\_\_.

Good shot.

(Unintelligible...then missiles fire....)

Good hit.

OK. We shoot clear and go \_\_\_\_\_.

Bring 'em on.

White one, this is Viper 55....

Keep 'em coming, .... that one's gonna hit, one more.

Last \_\_\_\_\_ station, White One.

White One, Viper Five Five we're uh, .....

## **Appendix E: Spotting List for Experimental Group Task**

- 1  
00:00:02,539 --> 00:00:03,613  
Two individuals and they're
- 2  
00:00:03,613 --> 00:00:05,423  
digging around in the ground.
- 3  
00:00:06,613 --> 00:00:07,953  
It looks like he appears to be
- 4  
00:00:07,953 --> 00:00:09,773  
covering something up in the road.
- 5  
00:00:09,813 --> 00:00:11,108  
He's on the east side of the road.
- 6  
00:00:11,834 --> 00:00:12,501  
Roger
- 7  
00:00:15,311 --> 00:00:16,214  
1-5, 1-0
- 8  
00:00:16,214 --> 00:00:18,494  
there's a child just outside of that tent
- 9  
00:00:18,494 --> 00:00:21,104  
the individual wearing  
white is underneath that cover
- 10  
00:00:23,202 --> 00:00:25,130  
Roger. We've identified a motorcycle.
- 11  
00:00:25,134 --> 00:00:27,750  
with a barrel on  
the back of it, or a barrel near it
- 12

00:00:27,750 --> 00:00:29,860

That's the other individual that used a branch

13

00:00:29,860 --> 00:00:33,300

to cover whatever he  
was covering there, uh. Break.

14

00:00:33,978 --> 00:00:37,195

Roger, my only concern is that child right now, um

15

00:00:38,538 --> 00:00:42,303

once he gets away, if we get  
four two nine, I'm good with it

16

00:00:42,477 --> 00:00:44,924

Roger, understand the child would be a concern,

17

00:00:44,954 --> 00:00:47,024

hum, I understand that. break.

18

00:00:47,144 --> 00:00:49,290

Group, uh, this entire group

19

00:00:49,653 --> 00:00:53,155

has been participating  
in diverting traffic away from that site

20

00:00:53,155 --> 00:00:56,169

where we saw them  
covering up..uh..the IED tracks

21

00:00:56,169 --> 00:00:57,929

do you confirm?

22

00:00:58,559 --> 00:00:59,486

Roger.

23

00:00:59,968 --> 00:01:00,872

Absolutely.

24

00:01:03,719 --> 00:01:07,674

What we are really waiting on now is uh  
four two nine and for the child to move.

25

00:01:08,191 --> 00:01:12,277

Alright those individuals are now over  
by where they, by where that IED is suspected.

26

00:01:12,277 --> 00:01:13,057

Yep.

27

00:01:13,327 --> 00:01:17,028

1-5, 1-0, there's two individuals,  
one on the motorcycle, one off a motorcycle

28

00:01:17,028 --> 00:01:20,078

in the vicinity of the, where we suspected that IED.

29

00:01:21,058 --> 00:01:23,052

Uh, they're digging it up!

30

00:01:23,289 --> 00:01:25,232

Hey can you confirm if they're digging....

31

00:01:26,048 --> 00:01:27,043

Yep, they are

32

00:01:27,045 --> 00:01:30,284

Appears to be working on the road,  
yes, they're digging around that same area.

33

00:01:31,232 --> 00:01:35,038

And they've positioned themselves  
on the opposite side of the motorcycle..uh

34

00:01:35,038 --> 00:01:37,676

from the friendlies that set the IED attack,

35

00:01:37,742 --> 00:01:39,723

and uh, they're definitely digging in the road.

36

00:01:41,802 --> 00:01:42,525

Is that a kid?

37

00:01:42,525 --> 00:01:42,938

Dammit!

38

00:01:44,256 --> 00:01:47,535

The kid appears to be carrying  
something over into their vicinity.

39

00:01:49,725 --> 00:01:51,324

He's handing them something

40

00:01:51,330 --> 00:01:53,126

and they're digging in that road.

41

00:01:54,832 --> 00:01:57,395

OK go away kid, go away kid, go away kid.

42

00:02:01,724 --> 00:02:04,193

Alright we're at twenty-seven hundred, yep

43

00:02:04,546 --> 00:02:08,632

And an individual's moving with  
a wheelbarrow up to that same area.

44

00:02:09,758 --> 00:02:12,074

You got that guy with the wheelbarrow, chop?

45

00:02:12,074 --> 00:02:14,346

Confirm, he looks like he went down to get water,

46

00:02:14,474 --> 00:02:16,528

he's continuing down to get more water or something,

47

00:02:16,757 --> 00:02:20,506

the child brought something to those two  
individuals that appear to be digging in the road

48

00:02:20,679 --> 00:02:23,062

handed it to them and moved off it at this point.

49

00:02:23,472 --> 00:02:26,265

Break break, 1-0, 1-5, do you...

50

00:02:26,265 --> 00:02:29,335

are you confident that you have PID  
[hundred percent] on these individuals,

51

00:02:29,335 --> 00:02:32,355

we see the two digging and  
with the wheelbarrow in the center.

52

00:02:33,487 --> 00:02:36,147

Roger. I believe that a hostile act,

53

00:02:36,147 --> 00:02:39,607

that is in the same areas that  
we saw them cover something up.

54

00:02:41,188 --> 00:02:42,731

Roger good copy...they're happy first...

55

00:02:42,731 --> 00:02:44,345

WHOA, never mind!

56

00:02:45,509 --> 00:02:46,342

Break, break.

57

00:02:46,342 --> 00:02:48,403

It just detonated by itself.

58

00:02:49,369 --> 00:02:50,656

They just blew themselves up.

59

00:02:50,775 --> 00:02:53,314

Confirm, they just blew themselves up.







**Appendix G: TOEIC ® Listening and Reading Sample Test**

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## **Appendix H: IED-related Newspaper Article<sup>i</sup>**

With the Troops: Afghanistan remains dangerous as drawdown leaves fewer soldiers at war

By Drew Brooks Military editor - Dec 2, 2014

BAGRAM AIRFIELD, Afghanistan - While most deployed Fort Bragg soldiers will be home for Christmas, not all of them will be able to avoid another holiday in Afghanistan. The 82nd Combat Aviation Brigade, which deployed roughly 1,700 troops between August and October of this year, will keep more than 600 soldiers in the country. They are pilots, flight medics, aircraft armors, fuelers and mechanics, stationed on at least five bases throughout eastern and southern Afghanistan. For the past few weeks, those soldiers have watched many of their colleagues head home and have seen photographs of happy reunions on Fort Bragg. Meanwhile, the operational tempo in Afghanistan has slowed as more and more troops leave. But that does not mean Afghanistan is completely safe. Col. Michael Musiol, commander of the 82nd CAB, is quick to point out a drawdown is still a war. "Afghanistan remains a volatile place," he said during a Thanksgiving Day visit to Camp Dahlke in Logar province. Dahlke is a small outpost that is still attacked regularly, due in part to its location near some of the most well-known insurgent strongholds of the war: the Charkh and Tangi valleys. "There's always been a good fight around here," Musiol said. "We've got to still fight here." Members of a medical evacuation platoon based at Dahlke said they regularly come under fire when responding to calls in those areas. The soldiers, known as Donkey Dustoff, described an instance in which their UH-60 Black Hawk helicopter immediately upon landing came under fire from rocket-propelled grenades and machine gun rounds that narrowly missed a crew chief and medic. "They don't like us," Chief Warrant Officer 2 Casey Wilcoxon, a medevac pilot, said of the Tangi Valley. "It's the worst place around here. Every time we go, it's like poking a hole in an ant bed." Dahlke is also home to one of the few remaining forward arming and refueling points, or FARP, not operated by civilian

contractors. Spc. Travis Adaline, a soldier with E Company, 1st Attack Reconnaissance Battalion, said the FARP runs 24 hours a day, seven days a week, even when the camp is under attack. "There's no stopping," he said. "You just kind of got to keep doing what you do. If they aren't fueled and armed, there's no backup." Despite the danger, Musiol said soldiers have lobbied to be among those who stay in Afghanistan. "I don't think most of them want to go home," he said. Musiol said his team, which includes soldiers from the 12th Combat Aviation Brigade in Germany, 3rd Infantry Division at Fort Stewart, Georgia, and members of the Tennessee, Alabama and Georgia national guards, has put up a tremendous effort. Task Force Pegasus, as the 82nd Combat Aviation Brigade is known in Afghanistan, has had to be flexible, Musiol said. But it has been successful eliminating at least 200 insurgents in just a few months. "They continue to be excited about their time in Afghanistan," Musiol said. "Nobody wants to not be in the fight." "It's a tough mission," Musiol added. "But being in the rear sometimes is more difficult." Musiol and many of his soldiers said the deployment is easier thanks to the support they continue to receive from home. The day after Thanksgiving, a medical evacuation crew at Bagram Airfield sorted through boxes of cards and candy from schoolchildren and family readiness groups. At Kandahar Airfield, the brigade's 2nd Aviation Assault Battalion, also known as Task Force Corsair, receives care packages by the truckload, said Corsair's commander, Lt. Col. Bryan Chivers. "That hasn't lost steam in 13 years," he said. "And the lion's share is from the Fayetteville/Fort Bragg area. It's a great community to be a part of." Corsair's Command Sgt. Maj. Steve Hartmann agreed. "We're doing our job," he said. "And the packages show there's at least one person besides family who cares." Wilcoxon, the Black Hawk pilot at Camp Dahlke, and Sgt. Brandon Dukes, another soldier in the dustoff unit, said the deployment has its ups and downs, but care packages are an undisputed bright spot. Wilcoxon said the unit gets mail every two to three weeks and it's "like Christmas." Popular items include Oreos and chocolate, they said.

Tobacco products and soap also are appreciated because their camp does not have a store where the soldiers can buy supplies for themselves. "We appreciate the support," Dukes said. "It doesn't go unappreciated."

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- <sup>i</sup> Brooks, Drew. "With the Troops: Afghanistan Remains Dangerous as Drawdown Leaves Fewer Soldiers at War," December 2, 2014. [http://www.fayobserver.com/news/local/with-the-troops-afghanistan-remains-dangerous-as-drawdown-leaves-fewer/article\\_630760ff-8585-5a3d-8270-dfcea451a7a5.html](http://www.fayobserver.com/news/local/with-the-troops-afghanistan-remains-dangerous-as-drawdown-leaves-fewer/article_630760ff-8585-5a3d-8270-dfcea451a7a5.html).

## **Appendix I: Amara Mutual Confidentiality and Nondisclosure Agreement**

### **MUTUAL CONFIDENTIALITY AND NONDISCLOSURE AGREEMENT**

This MUTUAL CONFIDENTIALITY AND NONDISCLOSURE AGREEMENT (the "Agreement") is entered into as of January 22nd, 2013 by and between Participatory Culture Foundation (PCF), a 501c3 in the State of Massachusetts, and Alan Patrick Campbell, an individual in the Country of Spain.

1. **Purpose.** In furtherance of the purpose or purposes stated below, either party hereto ("Discloser") may disclose its Confidential Information to the other party, ("Recipient"). This Agreement is intended to bind each party and prevent each party from disclosing the Confidential Information as herein provided or from using the Confidential Information for purposes other than pursuant to either the Discloser or the Recipient's engagement to procure the services of the other party OR to provide services to the other party (the "Permitted Purpose").
2. **Definition.** "Confidential Information" means any information, data, or know-how, including, without limitation, ideas, concepts, trade secrets, technical know-how, product specifications, systems, plans, processes, procedures, techniques, methods, designs, customer and vendor lists, prospect lists, finances of Discloser and any other information that Discloser considers and treats as confidential by specifically identifying as "Confidential Information", which is obtained directly or indirectly from Discloser in any form, including without limitation, documentary, tangible, oral, visual or electronic. The amount and type of Confidential Information to be disclosed is completely within the sole discretion of Discloser. Confidential Information does not include information, technical data or know-how which (i) at the time of disclosure, is available to the general public, (ii) at a later date, becomes available to the general public through no fault of Recipient and then only after such later date, (iii) is received by Recipient at any time from a third party without breach of a non-disclosure or confidentiality obligation to Discloser, (iv) as shown by proper documentation, is known to Recipient at the time of disclosure, (v) as shown by proper documentation, is developed independently by Recipient, or (vi) is approved for disclosure by prior written permission of a corporate officer of Discloser. Information shall not be deemed to be available to the general public for the purposes of the above exclusions from the definition of Confidential Information (x) merely because it is embraced by more general information in the prior possession of Recipient or of others, or (y) merely because it is expressed in public literature in general terms not specifically in accordance with the Confidential Information. Recipient's obligations set forth herein and the definition of Confidential Information contained herein shall be equally applicable to Confidential Information disclosed to Recipient by Discloser prior to the execution of this Agreement.
3. **Nondisclosure and Non-Use of Confidential Information.**
  - (a) Recipient agrees not to disclose the Confidential Information to third parties or to any of Recipient's employees except employees who are required to have the Confidential Information in order to further the Permitted Purpose and have been apprised of the confidential nature of the Confidential Information. Recipient agrees that it will follow the same internal security procedures and exercise the same degree of care regarding the secrecy and confidentiality of the Confidential

Information as similar information of Recipient is treated by Recipient or within Recipient's organization, but Recipient agrees that it will take no less than all reasonable steps to protect the secrecy of and avoid disclosure or use of Confidential Information in order to prevent it from falling into the public domain or the possession of unauthorized persons. Recipient agrees to notify Discloser in writing of any misuse or misappropriation of such Confidential Information which may come to its attention. If Recipient is required by a government body or court of competent jurisdiction to disclose any Confidential Information, Recipient agrees to give Discloser reasonable advance notice so that Discloser may contest the disclosure or seek a protective order, but no such disclosure shall constitute a breach of this Agreement. The Confidential Information shall remain the property of Discloser.

- (b) Recipient further agrees not to use the Confidential Information provided to it by Discloser for any purposes other than the Permitted Purpose.
  - (c) Recipient acknowledges that neither Discloser nor any of its directors, officers, agents or employees shall be liable for errors, omissions or inaccuracies of any kind in the Confidential Information and Recipient shall be responsible for verifying the accuracy and correctness of the Confidential Information. Recipient acknowledges that no warranty of any kind is given regarding the Confidential Information, the same being "as is," where is and with all faults and the warranties of merchantability and fitness for a specific purpose to the extent applicable, are excluded. The foregoing in no way modifies the retention by Discloser of all right, title and interest in the Confidential Information.
  - (d) Recipient agrees to indemnify Discloser for damages arising from any breach of the terms of this Agreement by Recipient, its present or future employees, agents or advisors, including, without limitation, unauthorized use of the Confidential Information or disclosure of the Confidential Information by Recipient, its present or future employees, agents or advisors. In addition to any and all remedies available to Discloser, at law or inequity, respecting a breach hereof, Recipient agrees to take all reasonable measures, including, but not limited to, court proceedings at its own expense, to restrain current or future employees, agent or advisors from unauthorized use or disclosure of the Confidential Information.
4. Return of Materials. Any materials or documents which have been furnished to Recipient by Discloser shall be promptly returned, accompanied by all copies of such documentation, within five (5) days after receipt by Recipient of a written notice from Discloser requesting the return of the Confidential Information.
5. Continuing Nondisclosure and Confidentiality Obligation. Whether or not Recipient and Discloser enter into or continue a business relationship, the covenants pertaining to confidentiality, nondisclosure and non-use in this Agreement shall nevertheless remain in full force, unless and until Discloser specifically agrees in writing to release all or part of the Confidential Information from the confidential restrictions imposed by this Agreement.
6. No Other Obligations. This Agreement imposes no obligation on either party to disclose Confidential Information or to purchase, sell, license, transfer or otherwise make use of

any technology, service or products or to enter into any other agreements. No party acquires intellectual property rights under this Agreement. Subject to the obligations of this Agreement, no party shall be precluded from independently developing technology or pursuing business opportunities similar to those covered by this Agreement.

7. Miscellaneous.

- (a) No Publicity. Recipient shall not disclose to any person or entity the fact that Confidential Information has been disclosed, that discussions or negotiations between Discloser and Recipient are taking place, or the status thereof.
- (b) Captions. Captions in this Agreement are for ease of reference only, and should not be considered in the construction of this Agreement.
- (c) Governing Law and Jurisdiction. This Agreement shall be governed by and construed under the laws of the State of Massachusetts without giving effect to any choice of law rule that would result in the application of the laws of any jurisdiction other than the internal laws of the State of Massachusetts to this Agreement. The federal and state courts within Suffolk County in the State of Massachusetts shall be the exclusive venue and shall have the exclusive jurisdiction to adjudicate any dispute arising out of this Agreement. Recipient hereby agrees to accept service of process by U.S. certified or registered mail, return receipt requested, or by any other methods authorized by Massachusetts law.
- (d) Remedies. Recipient agrees that its obligations hereunder are necessary and reasonable in order to protect Discloser, and expressly agrees that monetary damages would be inadequate to compensate Discloser for any breach of any covenant or agreement set forth herein. Accordingly, Recipient agrees and acknowledges that any such violation or threatened violation will cause irreparable injury to Discloser and that, in addition to any other remedies that may be available, in law, in equity or otherwise, Discloser shall be entitled to obtain injunctive relief against the threatened breach of this Agreement or the continuation of any such breach, without the necessity of proving actual damages or posting any bond.
- (e) Attorneys' Fees. If Discloser prevails in an action to enforce the provisions of this Agreement by obtaining substantially the relief sought, Discloser shall be entitled to attorneys' fees and court costs.
- (f) Compliance with Laws. Recipient agrees that it will comply with all applicable laws, including without limitation, those relating to the export of technical information or data.
- (g) Binding Effect. This Agreement shall be binding upon and inure to the benefit of the undersigned parties, their successors and assigns.
- (h) No Waiver. Failure to enforce any provision of this Agreement shall not constitute a waiver of any term hereof. No waiver of a breach of any provision of this Agreement shall constitute a waiver of any prior, concurrent or subsequent breach



of the same or any other provision hereof, and no waiver shall be effective unless granted in writing and signed by an authorized representative of the waiving party.

- (i) Partial Invalidity. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid or unenforceable, the other provisions shall remain in full force and effect, and the illegal, invalid or unenforceable provision shall be deemed replaced by a legal, valid and enforceable provision that most nearly reflects the intent of the parties in entering into this Agreement.
- (j) Entire Agreement. This Agreement contains the entire agreement of the parties with respect to the subject matter hereof, and supersedes all prior and contemporaneous communications, understandings and agreements.
- (k) Amendment. This Agreement shall not be amended other than in writing signed by Discloser and Recipient.
- (l) Counterparts. This Agreement may be executed in one or more counterparts each of which shall be an original and all of which together shall be but one agreement.

IN WITNESS WHEREOF, the undersigned have executed this Confidentiality and Nondisclosure Agreement as of the date first set forth above.

**Participatory Culture Foundation, PCF**

By:   
Signature

Name: Nicholas Reville

Date: 24 January 2013

**Alan Patrick Campbell**

By:   
Signature

Name: Alan Patrick Campbell

Date: 24 January 2013

## Appendix J: Residuals from Statistical Analysis

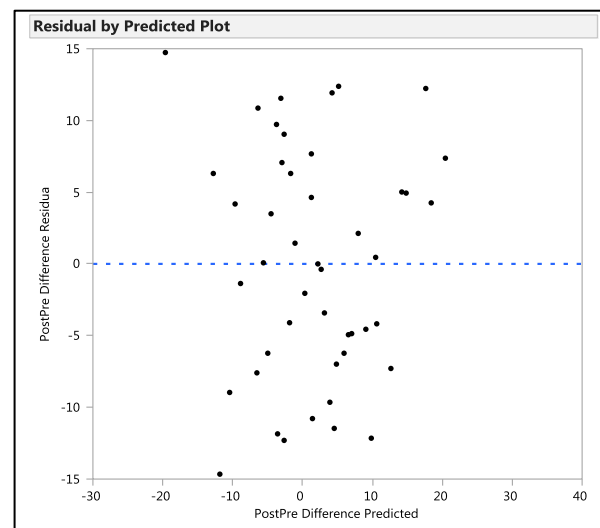
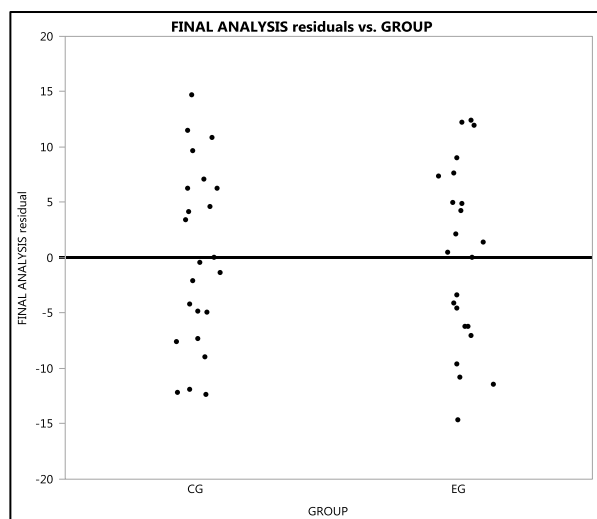
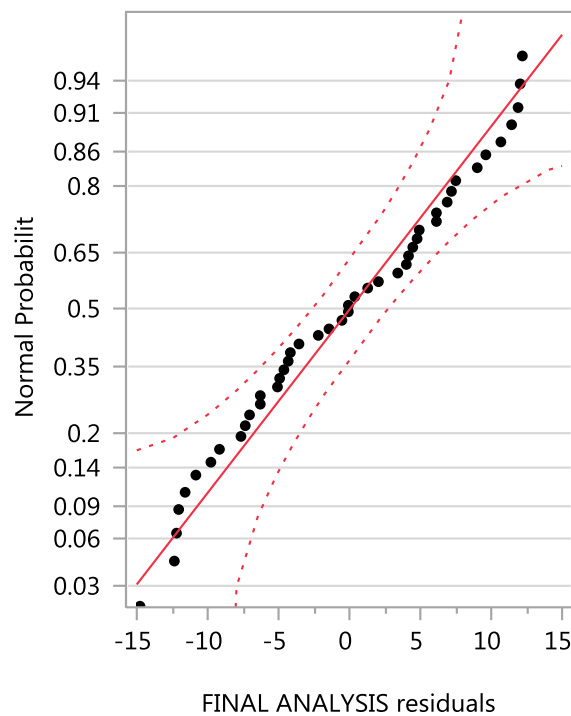
### Goodness-of-Fit Test

Shapiro-Wilk W Test

W	Prob<W
0.965117	0.1810

Note: Ho = The data is from the Normal distribution. Small p-values reject Ho.

### Diagnostic Plot



## **Appendix K: Electronic Appendix**

The Electronic Appendix contains the following supplemental files located on the accompanying media storage device:

1. Alan\_Campbell\_Final\_Dissertation.pdf
2. TOEIC\_Sample.pdf
3. Treatment (Folder)
  - a. Treatment\_audio.mp3
  - b. Treatment\_subtitles.srt
  - c. Treatment\_video.mpg
4. Pre-Test (Folder)
  - a. Pre-test\_listening\_audio.mp3
  - b. Pre-test\_listening\_video.mpg
5. Post-Test (Folder)
  - a. Post-test\_listening\_audio.mp3
  - b. Post-test\_listening\_video.mpg